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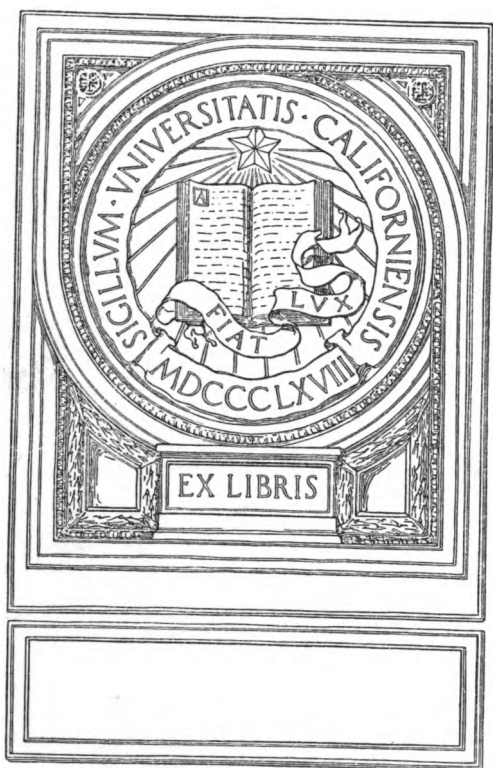
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THE ALPINE JOURNAL
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AND

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BY MEMBERS OF THE ALPINE CLUB

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24

Dear Odell

We're awfully sorry to have
left things in such a mess -
our Wm. Cooker rolled down the
slope at the last moment.

Be sure of getting back to IV
to meet in time to evacuate
before dark as I hope to

Shut the tent I must have ~~some~~
left a compass - for the Lord's sake
because it - we are without -

To leave on go at most 3 hours
for the 2 days - so we'll probably
go on 2 cylinders - but it's a heavy
load for climbing.

Perfect weather for the job!

Yr. ever
G. Mallory

THE LAST MESSAGE

Sent from Camp VI. and received at
Camp V. about 3 p.m., June 7.

THE ALPINE JOURNAL.

MAY 1925.

(No. 230.)

THE PROBLEM OF MT. EVEREST.

By LT.-COL. E. F. NORTON, D.S.O., M.C., R.A.
(*Leader of the 1924 Everest Expedition.*)

(Read before the Alpine Club December 15, 1924.)

THIS is intended to be a severely practical paper. I fear I must abandon any attempt to be picturesque, or even interesting except, I hope, to those who are genuinely interested in the problem of climbing Mt. Everest.

I propose only to touch on this year's attempt in so far as this is necessary in order to explain what follows: then to state the difficulties which confront us in organising a future attempt; lastly, to give you my ideas of how these difficulties may be met.

The 1924 Attempt.

The original plan was decided on in principle between Tinki and Shekar Dzongs, two weeks before we reached the Base Camp. We had been discussing it by correspondence and verbally since early in December.

By the time we reached the Base Camp it was settled in detail, with the exact daily programme of porters' and climbers' moves typewritten out in the form of a table; you would scarcely believe the amount of detailed work which was required to arrive at this table.

To follow one's movements it is essential to know the positions of the various Camps.

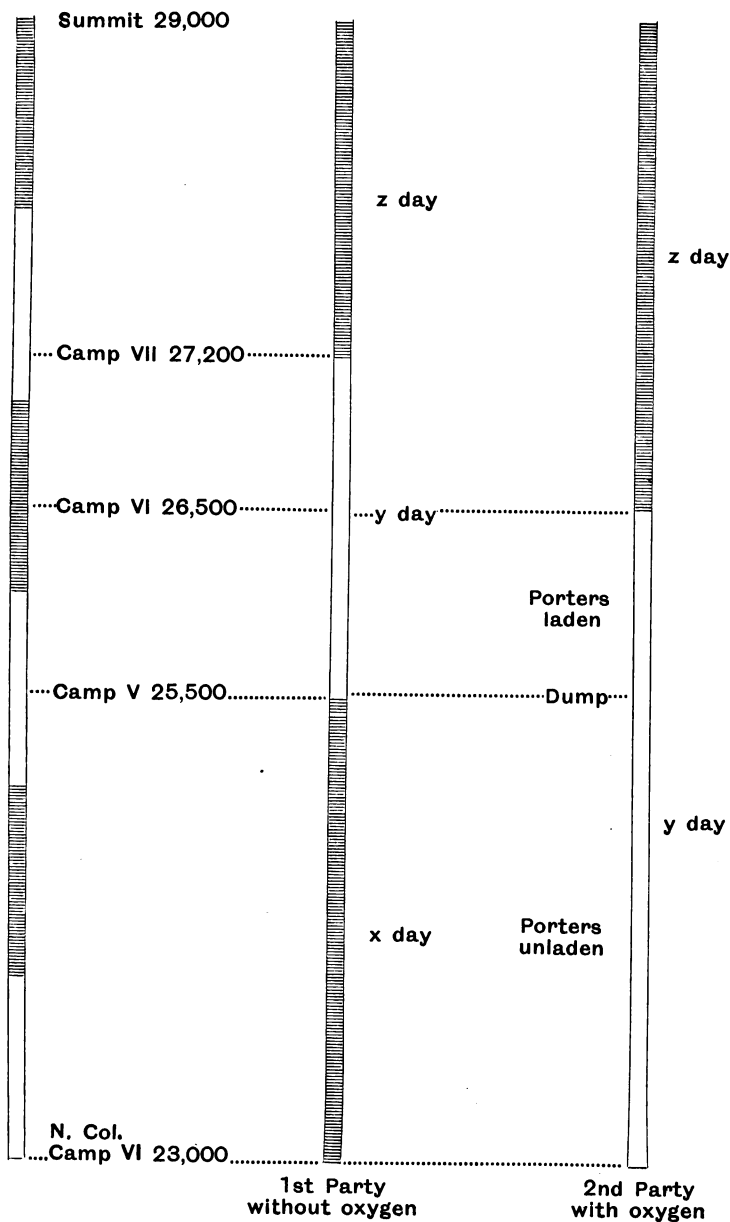
VOL. XXXVII.—NO. CCXXX.

B.

TABLES OF TIMES AND DISTANCES.

| Stage. | Approx. Distance. | Height Gained. | Up or Down. | No. of Times Recorded. | Average Time. | Quickest Time. | Average Climbing Time. | Remarks. |
|------------|----------------------|-------------------|----------------|------------------------------|------------------|--------------------|------------------------------|---|
| Base | | | | | hrs. mins. | hrs. mins. | ft. per hr. | |
| to I | 3½ miles | 1000 ft. | UP | 4 | 2 35 | 1 55 | 387 | |
| I to I | | | DOWN | 1 | 1 30 | | 752 | |
| I to II | 3½ miles | 1450 ft. | UP | 7 | 2 40 | 1 55 | 545 | |
| II to II | | | DOWN | 3 | 1 20 | 0 55 | 1190 | |
| II to II | | | UP | 2 | 3 10 | 2 20* | 615 | * Was certainly done in 2 hours but not recorded. |
| II to III | 4 miles | 1950 ft. | DOWN | 1 | 1 45 | | 1114 | |
| III to III | | | UP | 7 | 3 40 | { 2 40† 3 00‡ } | 410 | † With oxygen. ‡ Without oxygen. |
| III to IV | 1½ mile | 1500 ft. | DOWN | 3 | 2 40 | 1 30 | 564 | |
| IV to IV | | | UP | 3 | 5 10 | 3 15 | 508 | |
| IV to V | 1½ mile | 2600 ft. | DOWN | 2 | 1 35 | 0 30 | 1646§ | § Glissading on snow. |
| V to V | | | UP | 2 | 4 50 | 4 50 | 310 | |
| V to VI | ½ mile | 1500 ft. | DOWN | 2 | About 2 hrs. | About 1 hr. | 750 | |
| VI to VI | | | UP | 1 | 6 20 | — | 205 | |
| VI to VI | ¾ mile | 1300 ft. | DOWN | 1 | About 2½ hrs. | — | 520 | Very weak party. |

ORIGINAL PLAN



The Base Camp, 16,800 ft., was half a mile below the snout of the main Rongbuk Glacier, and about 12 miles as the crow flies from the top of the mountain.

Camp I, 17,800 ft., was in the valley of the E. Rongbuk Glacier, a short mile above its junction with the main Rongbuk valley, and just below the snout of the E. Rongbuk Glacier, 2 to 3 hrs. from the Base.

Camp II, 19,250 ft., was 2 to 3 hrs. above Camp I on the left lateral moraine of the E. Rongbuk Glacier.

Camp III, 21,200 ft., was 2 to 3 hrs. above Camp II on the left lateral moraine of that branch of the E. Rongbuk Glacier that comes from the N. Col.

Camp IV, 23,000 ft., was 200 or 300 yards N. of the actual N. Col.

Camp V, 25,300 ft., was a little on the E. or sheltered side of the N. Arête.

Camp VI was actually sited at about 26,800 ft. on the N. Arête; in our original plan it was to have been at about 26,500 ft., with Camp VII at about 27,200.

The plan (see diagram on p. 8) was as follows :

(i) As soon as Camp III was established, and while it was still being stocked with stores for the higher Camps, a party of 2 climbers without oxygen was to work out the route to Camp IV.

(ii) Next, a party of 2 climbers, without oxygen, escorting some 12 porters, was to establish Camp IV.

(iii) Next, a party of 2 climbers, using oxygen as a trial trip, and escorting 15 porters, was to sleep at Camp IV, and then go on to Camp V, select a suitable position about 25,500 ft., and there build the necessary platforms, pitch tents, and establish a dump of oxygen and other stores—a big day's work.

(iv) Now came the 2 parties of 2 climbers each, which were to make the first assault on the summit.

The first pair, without oxygen, on what we will call x day (about May 15), was to take some 9 porters to Camp V with extra stores required for that Camp and for Camp VII, and sleep there with 4 of the porters, sending back the remaining 5 unescorted to Camp IV.

(v) The next, or y day, the second pair, carrying oxygen, but using it to the minimum extent, was to escort some 9 porters, unloaded, to the dump previously established near Camp V; this meant for the porters a climb of 2500 ft. unloaded; thence they were to carry the necessary loads,

including oxygen, another 1000 ft. to Camp VI, at about 26,500 ft., or as near that point as possible.

On this same day the non-oxygen party, who had slept at Camp V (25,500 ft.), was to climb some 1700 ft. with 4 porters, and establish Camp VII at about 27,200 ft.; all porters of both parties were to return unescorted to Camp IV the same evening.

Thus you will understand that on *y* night the non-oxygen party was to sleep at near 27,300 ft., and the oxygen party at 26,500 ft., both parties unencumbered by porters.

I should here explain that the number of porters required for carrying oxygen on the scale we then considered necessary forbade the oxygen party sleeping two nights above the N. Col.

(vi) On *z* day both parties were to go for the top; it was assumed that the oxygen party would travel the faster, and consequently the 2 parties might be expected to synchronise near the summit; the parties were to be independent, but it was evident that they would never be separated by much more than 800 ft., and would reduce this distance as time went on, and they would thus be in a position to afford mutual support if required. A supporting party of one sahib only (on account of the tentage available) and some porters was to climb this same day to Camp V, there to meet the returning climbers.

On the whole this plan was unanimously approved of: we considered its weak points to be:

(i) It was too complicated, and smacked of that most difficult operation in war—the concentration of troops from different points on the field of battle at the decisive moment; in war you never know what surprises the enemy has in store, and in this case the enemy was the weather.

(ii) It was never certain that porters could be induced to carry to over 27,000 ft., or that the climb of the oxygen party from 23,000 ft. to 26,500 ft. could be accomplished.

(iii) It called for some 40 per cent. of our total porter corps to carry to 25,500 ft. or higher.

(iv) And it was a big gamble to use 4 out of a possible total of 8 climbers on one day; it put too many eggs in one basket.

But from our subsequent experiences there is now but little doubt that, given the weather conditions of 1922, it could have been done.

It was hoped to complete this attempt by the end of the third week in May, and, if successful, to repeat it with necessary modifications, using the other 4 climbers at some subsequent date to be decided by monsoon prospects.

Most of you know what happened. We encountered unexpectedly bad weather ; temperatures as low as 24° below zero F. at Camp III, compared to a minimum temperature of 12° below zero at that Camp in 1922, a blizzard and repeated falls of snow ; as a result we had to retreat to the Base Camp on May 11, without even reaching the N. Col.

Advancing again on May 17 we were again forced to retire on May 25, having achieved no more than the establishment of Camp IV—with 4 tents, very little food, and no oxygen.

By now everyone, with the possible exception of Geoffrey Bruce, was showing signs of wear, and the *moral* of the porters was much shaken ; it was evident that we could at best only resume operations within a day or two of the date on which the monsoon broke in 1922.

It was therefore necessary to revise our original plan ; two factors definitely precluded our carrying it out : first, the fact that we could only count on some 15 diehards out of our 55 porters even to reach the N. Col. (we rightly assumed that any who did so would go higher) ; second, that the time available before the monsoon was quite uncertain, but might obviously be only a few days.

We held two lengthy conferences at Camp I., in which all but Hagard and Beetham took part. Attempts by parties of 3 were unanimously vetoed, and the only alternatives seriously discussed were :

(i) A modification of the original plan cutting down everything to the barest necessities, but retaining the principle of a simultaneous assault by 2 parties of 2.

(ii) A series of attempts without oxygen ; each attempt to consist of 2 climbers, sleeping 2 nights above the N. Col ; attempts to start on consecutive fine days.

After much discussion I summed up all the arguments, showing in detail the number of porters required to carry out each of the methods discussed ; the second was unanimously adopted as our revised plan.

I know there has been criticism of the use of parties of 2 ; as regards the general principle I have nothing to say.

As regards this particular case, however, I am perfectly satisfied that we adopted the only course which combined a

fair chance of success with what I regard as an essential safety precaution—the provision of an adequate supporting party on the N. Col. For we had now only 7 climbers and 15 porters.

An unexpectedly prolonged spell of fine weather brought, I think, 3 more porters up to the scratch. With these 18 porters we actually put 2 parties of 2 climbers into Camp at nearly 27,000, and in doing so we used up every single climber and porter (I remember that Somervell and I had to carry kit on our own backs that should have been carried for us, had we had one spare man). It would have been impossible to do this with parties of 3.

Again, the use of parties of 3 would have entailed sacrificing the strong supporting party of 2 climbers at Camp IV, on which I always insisted; subsequent events demonstrated its importance. I may add that above the N. Col the mountain is an easy rock peak, with no ice or crevasses.

The principal reasons for the abandonment of oxygen were :

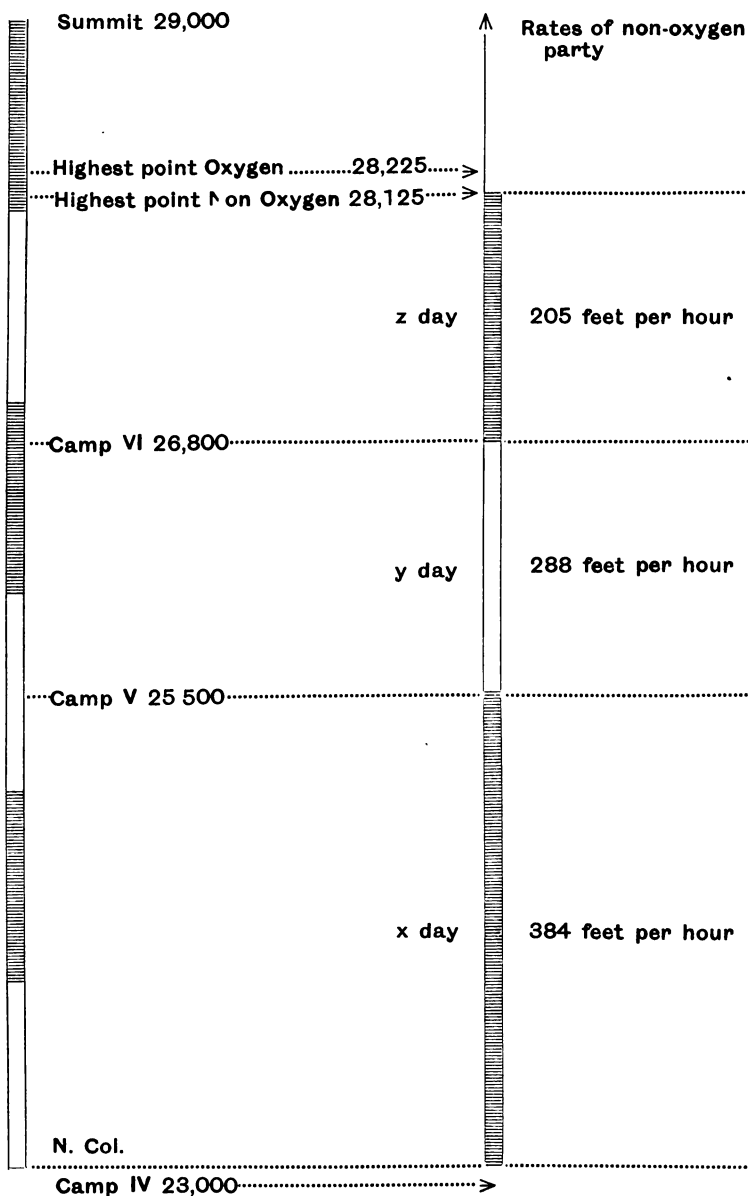
(i) At this stage we had not succeeded in transporting any oxygen cylinders even as far as the N. Col, and the shortage of available porters precluded the necessary organisation.

(ii) We had very little faith in the very imperfect apparatus at our disposal.

I will explain later why oxygen was, after all, used in the last attempt. I would ask those who are disposed to criticise our decision on these two points—the employment of parties of 2 and the abandonment of oxygen at this stage—to remember that the decision was arrived at after very full discussions; a number of minor considerations contributed to it: I have given only the most cogent. At the time these considerations were sufficient to produce a unanimous decision by the men on the spot, and I think this fact is the best answer I can give to those who criticise our action.

The revised plan was put into operation; the result is known to most of you.

The first pair, Mallory and Geoffrey Bruce, had to turn back from Camp V, as their porters would go no higher; the wind had taken the heart out of them; I would emphasise the point that the day on which this occurred was a normal fine day, and the wind was what one may encounter on any cloudless day on the mountain. The entry in my diary for this date—which I passed between Camps III and IV—is, 'weather still perfect.' Yet if anyone could have got these men to go on it would have

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been Bruce, who talked their language fluently and had a great influence over them.

The second pair, Somervell and myself, were defeated principally by time and altitude. Starting from 26,800 ft. at 6.40 A.M., we turned back at about 28,100 ft. at 1 P.M. and, passing Camp V about dusk, we reached Camp IV at 9.30 P.M.

We had proved the possibility of getting a Camp to nearly 27,000 ft., and of sleeping well there, and we had got far enough to make a fair estimate of what physical difficulties are to be expected in the last 1000 ft. of the mountain.

While we were on the mountain Mallory had organised a third attempt with oxygen; the necessary porters were collected by making use of the majority of those who had accompanied him and Geoffrey Bruce to 25,300 ft., with the addition of the 3 more volunteers I have already mentioned.

You may ask why at this stage an oxygen attempt was possible after having been ruled out; the answer is that it was a very much modified form of what we had previously considered necessary. For it had now been proved that it was possible to climb to—and then to sleep quite comfortably at—nearly 27,000 ft. without oxygen, and Mallory decided to use very little if any up to that point. Camp IV was now established and stocked with all requisites except one more porter's load of food, so that all but one of the available porters could be used for carrying oxygen. The 3 more porters who had volunteered to go high just made it possible.

Mallory and Irvine reached Camp IV without a hitch, and thence sent a note to say that they hoped to reach the foot of the final pyramid (about 28,300 ft. odd) by 8 A.M. next day. They were last seen at 28,300 odd at 12.50 P.M., over 5 hours late.

I should add that, with the exception of Odell, we all thought that their loss was probably due to a slip; the theory that they were benighted and failed to find Camp VI is difficult to reconcile with the fact that no light was seen on the mountain after dark.

Difficulties.

Turning to the future, the difficulties which will confront another expedition may be summarised as:

- (i) The Weather.
- (ii) Physical Mountaineering Difficulties.
- (iii) Porter Organisation.
- (iv) The Physiological Problem and the Use of Oxygen.

(i) *The Weather*.—As regards the weather. I hope it may be assumed that the weather met with in May of this year was exceptional; the Darjeeling tea-planters said that for at least twenty years no such weather had been known at this season.

On the other hand, Odell has an interesting paper by a man in Calcutta who has compiled very convincing statistics to show that the weather in India runs in cycles of sixteen years, and that we are now at the bottom of a wave corresponding to a series of wet years; he claims that he foresaw that this year's expedition was foredoomed to failure, and he says that no new expedition should be undertaken until 1929.

But it must not be forgotten that the year 1924 would have been sufficiently favourable if we could have foreseen what was coming; Camp III could have been established and stocked, but not used for sleeping, and an advance to Camp IV and onwards only undertaken with the beginning of the spell of three weeks' fine weather which begun on May 26. This would have sufficed, though it would be preferable to have more margin; the point is, can we—or can we not—reckon on three clear weeks of fine warm weather before the monsoon? I believe that normally we can.

There is one more point about the weather: it must be recognised that during any spell of fine weather it is impossible to guarantee that within three days there may not be a snow-storm or a particularly severe wind on the mountain—in this respect the Himalayas do not differ from other mountains—and so a party starting from the N. Col gambles on three suitable days running. If it encounters bad weather it runs the risk not only of temporary failure but also that its members may have shot their bolt for the year; we are not all Odells to go repeatedly to 25,000 and 27,000 ft.

(ii) *Physical Difficulties*.—In all probability these exist only in two places—the slopes leading to the N. Col and the approach to the final pyramid a little above 28,000 ft.; with these two exceptions the route is all easy and safe, except perhaps after new snow.

The approach to the N. Col is simply a steep glacier, and the route evidently varies from year to year; unexpected difficulties may always confront a future expedition here.

The obvious route, the zigzag trough used throughout the 1922 attempts, was avoided this year on account of the dangers of avalanche, for it was here that the whole party was swept away during the last attempt of that year, and 7 porters were killed.

The alternative route adopted this year avoided the dangers of the trough, but entailed some very laborious climbing and carrying.

The final steep traverse before arriving on the shelf, where Camp IV has been pitched for two years, is unavoidable, and will always be a source of possible danger.

The approach to the final pyramid appears to be the only other place entailing any danger, except perhaps when new snow is lying. Here there are two possible routes; the first, which Mallory always favoured, and which he followed in his last climb, is by the crest of the N.E. Arête.

There was always the doubt that a feature in this route, which we called the second step, might cause considerable difficulty; it presents a vertical face to the S. and E., but seemed surmountable, though evidently steep, to the N. Mallory and Irvine were last seen on the top of the step, and so must have climbed it; but this is not quite sufficient to guarantee this route, as they may well have fallen from it on the descent.

From the point where they were last seen to a point some 300 ft. below the summit it is all steep, but almost certainly easier than the place they had just surmounted; the last 300 ft. is obviously easy.

The alternative route which I favoured, and which Somervell and I followed, is roughly parallel to the crest, but 500 to 1000 ft. below it on the N. face. This route becomes steep and rather dangerous, though nowhere difficult—if I may so differentiate—in, and just W. of, the big couloir, which cuts off the final pyramid from the great N.E. shoulder of the mountain. For a short distance, perhaps 200 ft., the going is very steep, and composed of overlying slabs approximating to the general slope of the mountain; there is always apt to be a sprinkling of snow here, which conceals the footholds and constitutes the principal danger of a slip, for, sheltered as it is from wind and sun, the snow is powdery (of the consistency of coarse salt) and nowhere supports the foot.

About 200 ft. above the point I reached, all of which is of the steep slabby rock I have described, you emerge on to the face of the final pyramid, and, as far as we could judge from the Base Camp, there should be no further difficulty up to the summit.

Thus by either route there is some steep climbing at about 28,200 ft., steeper than anything on rock below; this factor must not be forgotten in estimating times both in ascending

and descending, for over portions of it it may be necessary to move one at a time on a belayed rope.

(iii) *Porter Organisation*.—Our principle was that, in the early stages, parties of porters must always be escorted by climbers on the glacier between Camps I and II, and between Camps III and IV. When the route and the generally negligible crevasses between Camps II and III became well marked, and when the elaborate system of fixed ropes which we used below Camp IV was established, such escort could be dispensed with if necessary. On the N. Arête of the mountain, between Camps IV and VI, it has always been considered justifiable to send down returning porters without escort.

Above the N. Col the whole difficulty—a very real and vital one—will always be the lowered vitality at high altitudes and its effects on the *moral* of the porters ; it becomes necessary to stimulate their will-power to carry out what their physical powers are certainly capable of.

(iv) *The Physiological Problem and the Use of Oxygen*.—Is it possible to climb the last 1000 ft. without oxygen ?

After our experience at 27,000 ft. in 1922, we were somewhat disappointed at the bad progress we made this year near 28,000 ft. It was merely a question of pace : our going-power seemed steadily to diminish, there were no other symptoms ; one could sit down and smoke a pipe in comfort, and my pulse after sitting for some minutes was only some twenty above normal. The trouble was that one went so miserably slowly uphill ; downhill, on easy going, one could always go all right.

As regards pace at this height, we have no satisfactory figures to guide us, for though it is true that I only mounted something under 100 ft. and progressed horizontally about 200 yds. in my last hour, this hour included the only comparatively difficult going we met.

I was precluded from mounting by a series of buttresses, which forced me to traverse until I reached the big couloir : I had twice to retrace my steps and select a new route, and I was bothered by the powdery snow, and some trouble with my eyesight (the beginnings of snow-blindness, which attacked me the same evening).

I was alone, unroped, and had to be exceedingly careful. Finally, I was not in a fit condition to provide a test case, as I had lost too much condition throughout the month of May, and the same applied in a greater degree to Somervell—owing to his throat trouble.

I myself believe that an average rate of 200 to 250 ft. an

hour could be maintained for the last 1000 ft. of Mt. Everest by a fit party without oxygen.¹

Is the oxygen apparatus, in its present form—*viz.* compressed gas in steel cylinders entailing a weight of 20 to 30 lbs. on the climber's back—sufficiently beneficial to outweigh the time, labour, and organisation it involves? It is very hard to say; in its favour are:

(a) The experience of Finch and G. Bruce two years ago.

(b) A somewhat vague statement by porters that Mallory and Irvine were going well up to 27,000 ft. (though Mallory wrote to Odell that they had used very little oxygen up to this point).

(c) A record I have discovered in the Camp diaries of a quick climb from Camp III to IV by Mallory and Irvine in which they are stated to have used oxygen.

(d) The very optimistic note from Mallory, written from Camp VI, telling Noel to be on the look-out for them with his cinema at the foot of the final pyramid at 8 A.M. This surely must indicate that they had reason to anticipate great things from the oxygen next day.

¹ The following times are the quickest recorded for a party of two or more. Some exceptionally quick times by a single climber are omitted. With one exception all are without oxygen.

| Stage. | Difference in Height. | UP. | | DOWN. | |
|-------------------------------|-----------------------|--------------------------------|----------------|----------|----------------------|
| | | Hours. | Feet per Hour. | Hours. | Feet per Hour. |
| III 21,200 to IV 22,700 | 1500 ft. | 3 with O ₂ 2½ | 500 564 | 1½ | 1000 |
| IV 22,700 to V 25,300 | 2600 ft. | 6 | 433 | 1¼ | 2000 (glissading) |
| V 25,300 to VI 26,800 | 1500 ft. | 4½ | 333 | 1¾ | 857 |
| VI 26,800 to 28,100 | 1300 ft. | 6½ | 205 | about 2½ | about 520 |

Against it are :

(a) The experience of G. Bruce and Odell, who both obtained very little—if any—benefit from it up to 23,000 ft.

(b) The subsequent experience of Odell, who used it up to 27,000 ft. with similar results. He admits that he used it very economically, but states that when he turned on the full two litres it did him no more good.

(c) Mallory's and Irvine's actual appearance, at 12.50 P.M., at a point still below the foot of the final pyramid, indicating a rate of progress but little better than Somervell's and mine without oxygen.

Personally, I think that this unaccountable delay was, at least partly, due to some mechanical defect in the apparatus, which postponed their start while Irvine was putting it right, but I do not propose to touch on the mechanical question to-night: this must be the subject for discussion by experts.

There you have the data about the oxygen: it remains the unknown quantity—the *x* of Mt. Everest.

Other physiological problems are those of food and acclimatisation.

There is no doubt that it is exceedingly difficult to hit on the right form of food for high altitudes. It should be palatable, for men will not eat enough of anything which is not; it should be so easily digestible as not to handicap the climbers' going-power for the next three hours, during the process of digestion; yet it must be sufficiently sustaining to prevent a hollow feeling soon after it is eaten, to support life for several days of severe exertion, and to offer resistance against cold.

Of acclimatisation we have learnt a good deal this year, though we have, no doubt, much still to learn.

There appears to be a certain permanent acclimatisation which lasts over a period of at least two years, for there is small doubt that those of the party who had been there before adapted more readily than the new-comers.

The undoubted superiority of Mallory in pace and general going-power over all of us, in both 1922 and 1924, may have been partly due to his having a year's start over the rest.

I believe that everybody has a certain limit up to which he improves under favourable conditions, and that this limit varies from, say, 19,000 to 23,000 ft.

There is also no doubt that some men adapt faster than others, and that some of those who adapt slowly prove the

strongest in the long run: Somervell in 1922 and Odell in 1924 are good examples of this.

For some, three weeks' acclimatisation at each advance in altitude would be desirable—were it possible.

On the other hand, during five days at Camp III, in the third week in May this year, when the weather conditions were very bad, the whole party deteriorated so rapidly that it became imperative to retreat; the general ill-effects of hardship, cold, and lack of sleep far outweighed the question of acclimatisation.

The difficulty will always be to strike a balance between these conflicting considerations.

Solution.

I will now give you, as briefly as I can, my own suggestions as to how the difficulties I have described may be dealt with.

(i) *The Weather*.—The Meteorological Department at Simla should be approached for any data as to:

(a) The probability of a cycle of unfavourable years in the near future; for the reasons I have already given I do not consider this so important as:

(b) Whether a spell of fine hot weather immediately preceeding the monsoon is normally to be expected.

If the answer to this latter question were in the affirmative, it would be a great help to the leader of a future expedition in making up his mind when to 'drop the flag.'

With the same object in view, another possibility is the provision of a wireless receiving set to accompany the expedition, who would thus be enabled to receive messages as to the progress of the monsoon. This year we made arrangements for such telegrams to be sent us both from Simla and Colombo, but they inevitably arrived too late: the first useful message we received met us at the Base Camp just as we had finished for the year.

Armed with this knowledge, the leader of a future expedition should be able to avoid the exhausting process of unnecessarily fighting severe weather conditions.

(ii) *Physical Difficulties*.—I would not advocate any attempt to find an alternative route to the N. Col. The approach from the W. via the main Rongbuk Glacier may well be as liable to avalanche as the present route; it is more exposed to

the danger of falling stones, it entails a climb of nearly 1000 ft. more, and both it and the Camps below would be exposed to the full force of the W. wind.

Our experience of two years tends to show that the 1922 route, what I have called the trough, may probably be used with safety until the advent of the true monsoon and the soft S.E. wind, for even after a new fall of snow the hot sun and cold nights, which are characteristic of the pre-monsoon North-westerly weather, soon render it safe. An alternative route on the same side, like the one used this year, should, if possible, be worked out to provide a bolt-hole if necessary.

The final traverse should never be tackled from below immediately after a fresh fall of snow ; if it becomes necessary to descend by it, a judicious use of ropes, fixed and otherwise, one man only moving at a time, should make it reasonably safe.

As regards the route to be followed for the last 1000 ft., I think that the experienced climbers who will lead future attempts must form their own conclusions from their reconnaissance of the ground and the data of this year's experiences.

For myself I still incline to the lower route.

(iii) *Porter Organisation.*—There is only one way of overcoming the difficulty I have mentioned—that of inducing porters to go to somewhere near their physical limit on their highest day—and this is for a large proportion of the climbers to acquire such influence over the porters that the latter will follow them.

To do this the first essential is that they must learn at least something of their language. I have learnt something of four Oriental languages, and I speak from experience when I say that, given the necessary determination and goodwill, much can be done between leaving England and arriving at Rongbuk ; but I would go further, and insist that, with the aid of the London School of Oriental Languages, of retired officers of Gurkha regiments, or some such means, members of a future expedition should, before sailing from England, acquire a foundation on which to build rapidly when once they get among the hill folk.

In addition, every climber should know every porter by name—here again I speak with certainty when I say that it is perfectly easy to know fifty or sixty men by name in a week or two ; and more, not only must he know the men, the men must know and trust him.

Without these fundamentals the small amount of leadership

required is impossible ; surely I do not ask too much when the success or failure of the whole expedition may—nay, must—depend on this one link in the chain.

(iv) *The Physiological Problem and Oxygen.*—As regards the use of oxygen, the balance of probability is now that men can reach the top without ; but it is by no means certain. I do not think it would be justifiable to send an expedition unequipped in this respect.

It must be for the experts—using Odell's invaluable experience—to rectify as far as possible the faults of this year's apparatus. I believe there is little—if any—hope of materially lightening it.

I would suggest that a future expedition would do well to confine themselves to using it only above 27,000 ft., for the acclimatisation acquired in climbing to that height without oxygen is the surest safeguard against serious effects of a breakdown of the apparatus high up.

I would deprecate any attempt to influence beforehand the decision of the leader of an expedition as to the extent to which oxygen is to be used ; supply the best apparatus that can be made, and leave the party a free hand whether—or when—it is to be used.

Without oxygen the surmounting of the last 900 ft. resolves itself into a question of 'time and space.'

With or without, I now consider it essential to sleep two nights—and only two—above 23,000 ft. ; to sleep three nights above this height would entail impossibly big intermediate Camps.

I am quite satisfied that Camps V and VI can be pitched 250 and 500 ft. higher, respectively ; we have always aimed at putting Camp VI just under the N.E. shoulder, at about 27,200 ft., but if a suitable site can be found nearer the summit at this level it would be much better.

This would leave 1800 ft. for the last day against, say, 1300 covered by the non-oxygen party this year. This party started at 6.40 A.M., having been delayed an hour by an accident to a thermos flask. They turned back at 1 P.M. and reached Camp IV at 9.30 P.M.

I should say here that an early start in the Alpine sense seems impossible on Mt. Everest ; I can only suppose that this is due to the lowered vitality of the early hours. But assume a start at 5.30 A.M. and a return to Camp V only ; we save at least 3 hours in which to cover the remaining 500 ft.—up and down. This runs it very fine indeed, but I am taking

the rate of progress of this year's party, and I think the pace ascending—but particularly descending—should be considerably faster with a fitter party.

The position of Camp VI will be the deciding factor. The nearer it is to the summit the greater the chance of success—obviously—but also the greater the risk that a party, with the tempting goal so close, will postpone their return until too late to reach safety. Leaders of future climbing parties should keep a clear sense of their responsibility in this respect.

As regards the food question, I can only suggest that some keen biologist might be asked to tackle the matter scientifically—it is worth all possible investigation—but I am not hopeful of improving very much on what we had this year.

Finally, as regards acclimatisation and the conservation of energy, I would take a leaf from Longstaff's book and say, *if conditions are bad*: 'Go as often as possible to 20,000 ft.—even to 23,000 ft.—but do not stay there.'

Sleep no higher than you can sleep well, than the highest point where you can to some extent enjoy your food, but spend as long as possible at this height.

In any case, I would not advocate going higher than 23,000 ft., until it is necessary, for above that point most people lose more in general condition than they gain in red corpuscles.

It must be the aim of a future expedition to make Camp III almost as comfortable as the Base Camp was this year; it is an impossible ideal, but we can get very much nearer it than we ever have before.

I have alluded to what Longstaff said about acclimatisation; I should like to pay a tribute to his remarkable insight into the whole problem under discussion. In many other respects his prognostications, made years before the 1921 Expedition first reconnoitred the mountain, have been proved accurate: the height of the snow-line on the Northern side of the range, the height of the Base Camp, the organisation and positions of intermediate Camps, the composition of the climbing party and the best type of porter, the minimum rate of progress necessary to ensure success—in all these matters he has been a true prophet, and I hope that a future expedition will not fail to benefit by the advice and help which he is always willing to give.

In conclusion, I must again apologise for a dull paper; my only excuse for inflicting it on you is that it contains a certain

amount of solid matter which I can find no better opportunity to publish.

In the ensuing discussion, Dr. T. G. Longstaff remarked :

This year's success is almost incredible under the adverse weather conditions which were met with. Colonel Norton has generously referred to what I said in this place a long time ago ('A.J.' xxiii. 256² and xxiv. 193³). I still think it is quite possible for some exceptional men, such as we had this year, to climb to the top of Mt. Everest without an accessory supply of oxygen. The great difficulty is establishing the high camps. If we can get hold of climbers who can carry their own camps up the mountain for three days—their tents, sleeping-bags, primus stove, fuel for snow-melting, food, and spare clothing—well and good. I don't look on this as possible on Everest. I've tried it myself up to 23,000 ft. When we tried Nanda Devi, of course, we broke down ; climbed up it for three days and then had to chuck it. I think we must have porters if the climbers are to have any chance at all. These porters cannot sleep really high, because they can only carry just enough for the climbers. The porters must get back to Camp IV to sleep. Therefore you cannot count on a last Camp higher than about 27,000 ft. I can best explain the case by quoting, if I may rely on your forbearance, the problem I faced when I wanted to explore beyond the Karakoram in 1909. I was limited to horse transport and there was no horse-feed in the country I wanted to get into. I found I could cut down my ponies to 15 for one month. I then found that I required about four times that number to carry the fodder for my ponies and to carry the fodder to feed the

² 'He personally thought that if an easy way up existed, it would be possible for some exceptionally strong climber to reach 29,000 ft., but if the route were hard he doubted that height being reached.' (1906.)

³ 'On Everest he would be surprised to find the snow lower than 20,000 ft. The Tibetan side would, he thought, prove easy of access. It was just a question if there was a technically easy route up the north side. There was none up the south or the west. A camp should be placed on stones—not on snow—at about 20,000 ft. ; the Base Camp should be an easy day below where existence was tolerable ; the working party should establish the 20,000 ft. camp, and also another 4,000 ft. higher. The party for the actual event, say four in number, could go up there fresh and make a dash for the summit, which perhaps two might reach.' (1908.)

ponies that were carrying the fodder, and so *ad infinitum* to a recurring decimal! We had to drop it. Norton's paper has been severely technical: exactly what this audience wanted; but part of the story of this year's doings has never been told in full—through a perhaps too reticent modesty. When Norton and Somervell and Mallory started up the N. Col to rescue those coolies they were already quite played out. The severe weather and labour at Camps III and IV had done them in. Their only chance was to get back quickly to the Base Camp to recover form. Instead, they had this infernally trying and excessively dangerous job of rescuing those men. That is what upset their apple-cart more than anything else. I know Strutt thought with me, when he heard that tale, that it was all up for this season. If only Somervell could have gone straight down, his throat would probably have recovered. It's what they'd already gone through that made their pace so slow at their last shot. What they did under such conditions quite convinces me that if circumstances had been really favourable they would have got to the top. In justice to those who favour oxygen, I must protest that Norton's double-vision had nothing whatever to do with his subsequent snow-blindness: it was a symptom of derangement of the higher brain-centres due to want of oxygen. But I hold that this was not due to absolute altitude so much as to the utter exhaustion produced by weeks of long-continued over-exertion, just as a runner faints at the post. The mystery of Mallory and Irvine is extraordinarily difficult. Unless they had been going fast—that is, at an Alpine rate—it's hard to believe that Odell could have seen them at all at that distance. Crawling men would have been invisible. Odell reports them moving actively, smartly, and at such a time and place as indicated that there is no reason why they should not have reached the summit. It looks as if Irvine had actually got the apparatus to work and that they were benefiting by oxygen. But really we have no proof that they were using oxygen at all. Undoubtedly the effects of altitude are less felt on a ridge than on a face; but whatever had delayed them for four hours, it could not have been slow pace. What happened afterwards no one knows; if it was a slip, which is fatally easy on the descent—we shall never know. But none who knew them can doubt that they would do their utmost to attain success, avoiding what risks they could and facing those they must.

I have been asked to add a note concerning the time available for the last day's climb. We are warned to beware of lying,

damned lying, and statistics. But if you know all the circumstances and conditions you can learn a lot by the comparison of 'times.' Such sums are simplest if we do them backwards. We assume the three essentials—fine weather; good mountain conditions; the climbers not already overstrained. Assume Camp VI at 27,000 ft. and Camp V at 25,000, where a supporting party is ready to meet the returning climbers at 7 P.M. (and being them down to IV if the luck holds). In 1922 Mallory, Somervell, and Norton, after their great climb, descended from 27,000 to 25,000 ft. at 1333 ft. per hour. In 1924 Norton and Somervell, both completely 'bust,' descended from 28,000 to 23,000 ft. at 700 ft. per hour, while Odell alone descended from 26,000 to 23,000 ft. at 1380 ft. per hour. It is reasonable to assume that from 28,000 to 25,500 ft. they can descend at 1000 ft. per hour. They should therefore be back by 4.30 P.M. Allowing a whole extra hour for an expected difficult passage, they should leave the summit at 2.30 P.M. If they can start at 6 A.M. they have $8\frac{1}{2}$ hrs. for the final 2000 ft. They must average 250 ft. an hour. It is to me utterly incredible that anyone whose pace is reduced below this—*merely by the effects of high altitude*—can possibly last the course in any circumstances, and I shall be very much surprised if a successful party does not make better time.

Mr. N. E. Odell remarked :

I should like to say how much I have appreciated hearing Colonel Norton's paper, and admired his able exposition and summing up of the problem for the benefit of a future expedition. There can be no one better fitted to do this than our capable and extremely sympathetic leader of this year.

It is unnecessary for me here to discuss in detail the question regarding the use and efficacy of oxygen on the mountain. I was in charge of it this year, and I have already stated my views in the official report presented at the Albert Hall Meeting. I will only remind you that the apparatus we had was much too heavy, and those of us who used it were unanimous in questioning very much whether there were any real advantages to be gained from it commensurable with the weight (about 30 lbs.) of apparatus carried. In any case we consider that acclimatisation to as high an altitude as possible is most desirable on many considerations, and that only for the final 'sprint,' so to speak, from the highest Camp need oxygen, or should it, be used. I think it will not be necessary for a future party to take more

than the lightest apparatus possible, with a less quantity of gas, to be used, if found beneficial, on this final portion of the climb to the summit; or, on the other hand, to be available merely as an emergency measure. To take it in large quantities on the lower parts of the mountain, apart altogether from the important question of increased transport necessitated, prevents proper acclimatisation, and thereby renders the user more liable to collapse in the event of the apparatus failing.

PHYSIOLOGICAL DIFFICULTIES IN THE ASCENT OF
MOUNT EVEREST.

By MAJOR R. W. G. HINGSTON, I.M.S.
(*Medical Officer to the Expedition of 1924.*)

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January 1925.)

THE primary object of the Mount Everest Expedition was to reach the highest summit on the Earth. Everything else was subordinate to this. Elaborate scientific investigations were impossible, and anything involving complicated apparatus was altogether out of the question. We had to content ourselves with simple experiments and with the records of the experiences of individual climbers. These, nevertheless, may be worth discussion. They will give us some idea of the physiological difficulties involved in an ascent to so great a height.

Alterations in Breathing.—The most obvious of these is the difficulty in breathing. Owing to the gradual nature of our ascent this shortness of respiration was scarcely noticeable below 10,000 feet. It was definitely apparent above 14,000 feet, and above 19,000 feet the slightest exertion made breathing laboured and severe. When the body was at rest, even at extreme altitudes, the rate of breathing was apparently normal and as comfortable as at sea-level. But the very slightest exertion, such as the tying of a bootlace, the opening of a ration-box, the getting into a sleeping-bag, was associated with marked respiratory distress. The difficulties of the ascent were thus enormously increased. The breathing was quicker rather than deeper, but it was necessary to stop at frequent intervals and take a series of long, deep breaths. This very quickly brought relief and made one ready for a further advance. Norton

told me that, when he found himself dropping behind, his only chance of catching up the party was by taking a number of these long, deep breaths. Somervell gives a record of his breathing at 27,000 feet. At that altitude he had to take seven, eight, or ten complete respirations for every single step forward; and even at that slow rate of progress he had to rest for a minute or two every 20 or 30 yards. At 28,000 feet Norton, in an hour's climb, ascended only about 80 feet. This was the highest point reached without the aid of oxygen. The strain at that altitude was certainly intense, but when we remember that the supply of oxygen is only about one-third of that available at sea-level, we are surprised that men can make these strenuous efforts, and still more that they can remain in comparative comfort when they sit down to rest.

The alteration in the rhythm of the breathing—commonly known as Cheyne-Stokes respiration—was frequently noticed during the expedition. I heard one member of the party breathing in this way as low as 12,000 feet. Though as a rule it seldom occurs when awake, yet at the base camp I was conscious of this type of breathing before passing off to sleep. Illness at high altitudes markedly increases it. It was most pronounced in one member when suffering from fever at 15,000 feet, and still more so in a Gurkha when dying of cerebral hæmorrhage at 18,000 feet. The rapid breathing of cold dry air produces some important secondary effects. It causes inflammation of the respiratory passages. Every member suffered from sore-throat, from hoarseness, or from loss of voice. Most had irritating coughs, but with little expectoration. Some of the porters developed severe bronchitis: one had a profusely ulcerated throat, another persistently coughed up blood. Dr. Kellas was of opinion that the breathing was less laboured in a high wind. He thought that the wind might have the effect of packing the air into the lungs; also that it swept away the exhaled air and thus prevented it from being inhaled by the next breath. Our experiences did not agree with his. Mount Everest is noted for its heavy winds. They caused considerable obstruction to the breathing. A moderate breeze had a freshening effect, but a strong wind impeded progress, and there was a feeling of suffocation when facing powerful gusts.

I made some experiments on the respiration. The power of holding the breath is a simple test to which pilots are submitted in the Royal Air Force. The following table shows the diminution in this power at successive altitudes in the ascent.

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The first column is the most complete. Where at sea-level the breath was held for 64 seconds, at 21,000 feet it was held for only 14 seconds.

| Altitude in feet. | Time breath held (in secs.). | | | | | | | | | |
|-------------------|------------------------------|--------|------|------|--------|--------|--------|--------|--------|--------|
| | R.W.H. | E.O.S. | B.B. | G.B. | E.F.N. | G.L.M. | J.V.H. | A.C.I. | T.H.S. | N.E.O. |
| Sea-level | 64 | — | 120 | — | — | — | 90 | 120 | — | — |
| 7,000 ... | 40 | 40 | 60 | 40 | 40 | 50 | 42 | 80 | 60 | 55 |
| 14,300 ... | 39 | 32 | 35 | 32 | 37 | 40 | — | 47 | 48 | — |
| 16,500 ... | 20 | 23 | 35 | 20 | 31 | — | 23 | 30 | 41 | 28 |
| 21,000 ... | 14 | 17 | — | 20 | — | — | 17 | — | — | — |

Another test used amongst airmen is the measurement of the expiratory force. This consists in blowing a column of mercury up a graduated glass tube. The height reached by the mercury is read off, and this gives a measure of the expiratory force. If the expiratory force is much below the average it suggests that the airman will be incapable of sustained effort. The following table gives the results of our experiments. It suggests that with increasing altitude the expiratory force tends to improve. Look again at the first column. At sea-level the expiratory force was 110 mm. Hg; at 21,000 feet it was 150 mm. Hg. The third, fourth, fifth, sixth, seventh and eight columns also show that an improvement has occurred.

| Altitude in feet. | Expiratory force in mm. of Hg. | | | | | | | | | |
|-------------------|--------------------------------|--------|------|------|--------|--------|--------|--------|--------|--------|
| | R.W.H. | E.O.S. | B.B. | G.B. | E.F.N. | G.L.M. | J.V.H. | A.C.I. | T.H.S. | N.E.O. |
| Sea-level | 110 | — | — | — | — | — | — | — | — | — |
| 7,000 ... | 110 | 120 | 140 | 160 | 110 | 110 | 130 | 160 | 120 | 110 |
| 14,300 ... | 110 | 90 | 160 | 190 | 120 | 120 | — | 160 | 120 | — |
| 16,500 ... | 140 | 130 | 210 | 200 | 170 | — | 120 | 170 | 120 | 100 |
| 21,000 ... | 150 | 120 | — | 210 | — | — | 150 | — | — | — |

I did not anticipate this improvement in the expiratory force. But the test has little to do with the function of respiration. It is more an indication of physical fitness and muscular strength. And this tends to improve during an ascent, when the progress is slow enough to be accompanied with acclimatization and before the wasting of high altitudes becomes marked. The march across Tibet made us tougher and harder. Hence the expiratory force improved. Mosso came to a similar conclusion in the Alps. He made his men perform exercises with dumb-bells, and was surprised to find that they did much more work at a height of 4560 metres than when they performed the same exercises at Turin.

Circulation.—I pass to the changes in the circulation. Blueness of the face and lips, lividity of the nails, coldness of the extremities, were the indications noticed of the impaired circulation at altitudes above 19,000 feet. Three of the members experienced giddiness. One noticed that it was immediately relieved by taking a deep breath. Once the extremities become cold at these high altitudes there is a great difficulty in regaining warmth even in the interior of a sleeping-bag. The pulse is not markedly accelerated while at rest, but increases rapidly on the slightest exertion. Norton's normal pulse is 40, and it was only 60 when he was resting at 27,600 feet. An intermittent pulse may develop at high altitudes. In one instance, after crossing a pass of only 14,000 feet the pulse missed four beats every minute without causing any particular symptoms or distress. This irregularity of the pulse seems to be a common feature. Mosso states that, when on Monte Rosa, he noticed that nearly all the members of his party showed some signs of irregularity of the heart. Hæmorrhages at high altitudes have often been described, from the gums, the lips, the conjunctivæ, the nose. Nothing of the kind occurred amongst the members of our expedition.

The following table shows the changes in the pulse of one individual at successive altitudes above sea-level. The first column gives the pulse-rate when the person is at rest. There is no change except at the highest altitude, 21,000 feet. The second column shows the change that occurs when the person is made to stand up. There is an increase in the pulse-rate somewhat in proportion to the altitude of the experiment. Column 3 shows the change after regulated exercise. The exercise consisted in standing alternately on a chair and on the ground five times in 15 seconds. Again there is a marked increase in the pulse-rate, and this increase is greater the greater the altitude. The last column gives the time in seconds that the pulse takes to return to normal.

| Altitude in feet. | Pulse-rate of one individual. | | | Time in secs. of return of pulse to normal. |
|-------------------|--------------------------------|---------------------------------|---|---|
| | Pulse-rate per minute sitting. | Pulse-rate per minute standing. | Pulse-rate per minute after regulated exercise. | |
| Sea-level... | 72 | 72 | 84 | 20 |
| 7,000 ... | 72 | 84 | 96 | 15 |
| 14,300 ... | 72 | 84 | 108 | 40 |
| 16,500 ... | 72 | 96 | 120 | 20 |
| 21,000 ... | 108 | 120 | 144 | 20 |

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The blood-pressure was taken with a sphygmomanometer in the manner adopted by the Royal Air Force. The following is a table of results. There seems to be no change in the blood-pressure definitely associated with increase in height.

Blood-pressure at successive altitudes.

| Altitude in feet. | R.W.H. | | E.O.S. | | B.B. | | G.B. | | E.F.N. | | J.V.H. | | G.L.M. | | A.C.I. | | T.H.S. | | N.E.O. | |
|----------------------|--------|-------|--------|-------|------|-------|------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|
| | Sys. | Dias. | Sys. | Dias. | Sys. | Dias. | Sys. | Dias. | Sys. | Dias. | Sys. | Dias. | Sys. | Dias. | Sys. | Dias. | Sys. | Dias. | Sys. | Dias. |
| Sea-level | 120 | 80 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 7,000 | 130 | 90 | 125 | 90 | 150 | 110 | 130 | 90 | 140 | 80 | 120 | 100 | 120 | 85 | 130 | 100 | 110 | 85 | 100 | 80 |
| 14,300 | 135 | 95 | 115 | 80 | 145 | 85 | 130 | 90 | 135 | 90 | — | — | 120 | 90 | 130 | 100 | 130 | 90 | — | — |
| 16,500 | 146 | 104 | 128 | 90 | 140 | 102 | 128 | 93 | 136 | 96 | 126 | 94 | 122 | 78 | 140 | 110 | 120 | 82 | 125 | 95 |
| 21,000 | 138 | 118 | 100 | 80 | — | — | 110 | 90 | — | — | 100 | 80 | — | — | — | — | — | — | — | — |

A well-known change that takes place during an ascent to high altitudes is the increase in the number of red corpuscles per unit volume of blood. The conditions on Everest were too rough for these delicate determinations. But further west, on the Pamir plateau, I had previously made a series of blood counts up to 18,203 feet. The following table shows the results :—

| Date. | Altitude. | Corpuscles per mm. |
|----------|-----------|--------------------|
| April 10 | 700 feet | 4,480,000 |
| May 12 | 4,390 | 5,240,000 |
| May 21 | 8,000 | 6,040,000 |
| May 28 | 10,000 | 6,624,000 |
| May 30 | 11,960 | 6,760,000 |
| June 1 | 12,400 | 6,800,000 |
| June 21 | 13,300 | 7,525,000 |
| June 23 | 15,600 | 7,840,000 |
| June 26 | 16,900 | 7,640,000 |
| July 27 | 18,200 | 8,320,000 |

There has been an increase in the number of red corpuscles from 4,480,000 at 700 feet to 8,320,000 at 18,200 feet. Another point of interest is that the people who live on the Central Asian plateau have a higher blood count than those at sea-level. The average blood count of the Sarikoli is 7,596,000, of the Kirghiz 7,920,000. The blood count of the European is about 5,000,000, but, on making an ascent to the Tibetan plateau, the corpuscles in his blood rapidly increase until they

reach the number normal to the people who live permanently at those heights.

Muscular Power.—Airmen describe great muscular weakness when flying at considerable altitudes. Even working a camera-shutter calls for enormous effort. We did not notice such pronounced effects, probably because our ascent was slow. But if inhalation is inadequate the legs soon become tired. It is not the tiredness of a prolonged walk, but more a heaviness and a lassitude which quickly disappears with a short rest.

The endurance test employed by the Royal Air Force is said to indicate the stability of the medullary centres and the capacity of the individual to resist fatigue. The test consists in blowing a column of mercury to a height of 40 mm. and noting how long the person is able to sustain it at that height. The pulse is counted in periods of five seconds during the performance of the test. The following table gives the result of this test. Every column shows a diminution in the powers of endurance at each successive height. Take, for example, the first column. At sea-level the subject could sustain the mercury for 45 seconds ; at 21,000 feet for only 15 seconds.

Endurance test.

| Altitude in feet. | Time in secs. Hg maintained at 40 mm. | | | | | | | | | |
|----------------------|---------------------------------------|--------|------|------|--------|--------|--------|--------|--------|--------|
| | R.W.H. | E.O.S. | B.B. | G.B. | E.F.N. | G.L.M. | J.V.H. | A.C.I. | T.H.S. | N.E.O. |
| Sea-level | 45 | — | — | — | — | — | — | — | — | — |
| 7,000 ... | 35 | 30 | 60 | 50 | 20 | 60 | 35 | 45 | 50 | 50 |
| 14,300 ... | 30 | 30 | 25 | 40 | 25 | 35 | — | 45 | 25 | — |
| 16,500 ... | 23 | 23 | 23 | 15 | 23 | — | 17 | 25 | 22 | 20 |
| 21,000 ... | 15 | 15 | — | 15 | — | — | 10 | — | — | — |

The pulse-rate was taken during the above test. Some of the results are given below. The first figure in each series shows the normal rate of the pulse during the five seconds before the test begins. This figure is separated from the following figures by a stroke. These following figures give the pulse-rate during each successive period of five seconds throughout the performance of the test. Take, for example, the first line of figures in the first column—6/7.8.9.9.8.7. The 6 is the pulse-rate during the five seconds immediately before the test. The 7 is the pulse-rate during the first five seconds of the test. The remaining figures, 8.9.9.8.7, are the pulse-rates during the successive periods of five seconds until the test ends. In this way we obtain the character of the pulse while the person is undergoing continuous strain.

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Pulse-rate in secs. during Endurance test.

| Altitude in feet. | B.O.S. | B.B. | G.B. | A.C.I. |
|----------------------|---------------|---------------------|---------------------|-----------------------|
| 7,000 | 6/7.8.9.9.8.7 | 6/6.7.9.9.7.6.6.6.5 | 5/6.6.8.6.5.4.5.5.5 | 8/9.11.10.8.7.6.6.6.6 |
| 14,300 | 6/6.7.7.7.7.7 | 6/7.8.8.6.5 | 5/7.7.7.6.8.6.5.5 | 8/9.9.11.10.9.9.9.8 |
| 16,500 | 6/7.7.8.7 | 6/9.9.9.3 | 6/7.8.9 | 8/11.10.9.7.6 |
| 21,000 | 8/10.8.6 | — | 9/10.10.6 | — |

The chief point of interest in this experiment is the marked slowing of the pulse that takes place when the capacity of endurance is beginning to tell. At the commencement of the test the pulse first increases, but after a lapse of 15 to 20 seconds it begins definitely to slow up. This slowing of the pulse is more marked at the higher altitudes. There is an extreme case in the lowest line of figures of column two. The 6/9.9.9.3 indicates that on the commencement of the experiment the pulse immediately rushed up from 6 to 9 beats in the first 5 seconds, and after a lapse of 15 seconds suddenly fell back from 9 to 3. This occurred at 16,500 feet.

Nevertheless, in spite of these vagaries of the pulse, it is remarkable how well the strength is maintained at altitudes over 20,000 feet. This specially strikes us when we observe how animals can move so freely at such great heights. Ravens and crows used to come to our camp at 21,000 feet. We saw lammergeyers circling round the mountain at 23,000 feet, and choughs followed the climbers to their highest bivouac at 27,000 feet. They moved through the air with perfect ease, though it must have required much greater effort to sustain them than when flying in the denser atmosphere of the plains.

Special Senses.—Changes in the function of the special senses have occasionally been noticed by mountaineers. They describe an impairment of vision, a diminution in hearing, alterations in the taste and smell. Most of our party noticed nothing in this respect, but two members were particularly emphatic in their loss of the sense of taste. One said that 'taste was distinctly affected,' that 'things seemed to have less taste, though there was no change in the character of the flavour.' He was unable to taste onions at 19,000 feet. Another found food 'distinctly tasteless.' At 19,000 feet he could eat a slab of peppermint without strongly appreciating the flavour. Their sense of taste returned on descending to the base camp at 16,500 feet.

Pain.—The only kind of pain which we could attribute to high altitude was the occasional occurrence of a slight headache. Most of the members never experienced it, but some of us noticed it on first reaching the plateau, though, after

a few days' acclimatization, it completely disappeared. It usually commenced at the back of the neck, spread into a general mild headache, and disappeared after an hour's rest. Exercise, and particularly stooping, increased it. Lying down quickly brought relief. Our porters also suffered from headache. Many of them asked for headache tablets the first time we passed over into Tibet. Even the inhabitants of the plateau are not immune. It is common to see patches of plaster on their temples and black pigment smeared on their cheeks. These are remedies which they use to alleviate the headache caused by the altitude and wind.

Gastro-intestinal Symptoms.—Loss of appetite is a serious consequence of residence at great heights. Probably it is the cause of much of the wasting that occurs. There is much individual variation in this respect. Some of the climbers maintained that there was no loss of appetite. I found some dislike for food even at the base camp, though this disappeared on acclimatization. Bruce thought that his appetite was unimpaired up to 21,000 feet. At 23,000 feet he found a disinclination for meat, though he still had an appetite for cereals and sweets. At 25,000 feet he lost all appetite for solid food, but could still take coffee and to a less degree soup. Somervell at 27,000 feet found an absolute distaste for solids, though he enjoyed liquids and sweets and fruit. The general opinion seemed to be that sweet things were the most palatable and meat the least palatable above 19,000 feet. There was no suggestion of nausea or vomiting even at the highest altitudes reached.

Diarrhoea is not uncommon. It is usually of a transient nature, and may be associated with much bile. Occasionally it may be more persistent, and refuse to yield to any treatment until a descent is made to moderate heights. Thirst is a far more important factor. It may be excessive at the end of a hard day, and, owing to the practical difficulties in obtaining water, may cause exhaustion of the climbers and failure of the climb. How best to relieve thirst at the high camps is a most important practical point. The craving for drink is not the result of perspiration, but of the loss of moisture in the respiratory passages from the excessive inhalation of cold dry air. This desiccation of the body at extreme altitudes may result in a great scantiness of urine. One of the climbers at 21,000 feet did not micturate for 16 to 18 hours; another on his descent from 28,000 feet did not do so for 24 hours.

Mental Effects.—High altitudes affect the operations of the

mind. One member was confident of a dulling of the will-power, a diminution in the strength of purpose, with less and less desire to reach the summit the further he made the ascent. Somervell describes a lack of observance at and above 25,000 feet. Bruce records an enfeeblement of memory. He found an effort in recalling previous events. Above 23,000 feet his ideas became increasingly inaccurate. It was necessary for him to record them immediately, as otherwise they would become forgotten or distorted. I think every one experienced some mental lassitude. Though the mind was clear, yet there was a disinclination for effort. It was far more pleasant to sit about than to do a job of work that required thought. We did not notice any peevishness or petulance, though I suspect that high altitudes would cause unsociability in a party less perfectly harmonious than ours. Though mental work is a burden at high altitudes, yet with an effort it can be done. One physiologist has said that sustained mental work is out of the question at anything over 10,000 feet. We certainly could not agree with this. Those who have read Norton's despatches to the *Times*, especially one dictated at Camp III, when he was burdened with anxiety and partially blind, will admit that this effort from 21,000 feet was not a bad intellectual performance. The main effect of altitude is a mental laziness which determination can overcome.

I made some mental tests on the members of the party. These tests were very simple. The first was a multiplication test. It consisted in multiplying the figures 123456789 by 7. The second was a division test, and consisted in dividing the same series of figures by 9. A record was made at successive altitudes of the time taken to do these sums. Probably these tests were far too simple. By an effort of concentration they could be easily done, and thus the effect of altitude was not properly shown. I give the results for what they are worth. They show no definite deterioration of mental activity. It will not please the members of the next expedition to hear that more complicated and worrying tests are required.

Multiplication test, showing time in secs. for completion of sum.

| Altitude in feet. | R.W.H. | B.B. | E.F.N. | G.L.M. | T.H.S. | E.O.S. | G.B. | J.V.H. | A.O.I. | N.E.O. |
|-------------------|--------|------|--------|--------|--------|--------|------|--------|--------|--------|
| 0 ... | 20 | — | — | — | — | — | — | — | — | — |
| 7,000 ... | 25 | 25 | 27 | 13 | 40 | 43 | 40 | 35 | 25 | 80 |
| 14,300 ... | 25 | 24 | 19 | 15 | 28 | 43 | 25 | — | 28 | — |
| 16,500 ... | 18 | 23 | 28 | 17 | 40 | 35 | 35 | 55 | 35 | 30 |
| 21,000 ... | 17 | — | — | — | — | 35 | 27 | 40 | — | — |

Division test, showing time in secs. for completion of sum.

| Altitude in feet. | R.W.H. | B.B. | E.F.N. | G.L.M. | T.H.S. | E.O.S. | G.B. | J.V.H. | A.C.I. | N.E.O. |
|-------------------|--------|------|--------|--------|--------|--------|------|--------|--------|--------|
| 0 ... | 30 | — | — | — | — | — | — | — | — | — |
| 7,000 ... | 20 | 20 | 30 | 10 | 25 | 55 | 15 | 35 | 15 | 45 |
| 14,300 ... | 28 | 20 | 13 | 23 | 20 | 45 | 17 | — | 17 | — |
| 16,500 ... | 13 | 27 | 23 | 17 | 40 | 38 | 23 | 43 | 20 | 50 |
| 21,000 ... | 15 | — | — | — | — | 40 | 13 | 59 | — | — |

The knee-jerks were examined at successive altitudes. In no case did they seem in any way affected by the height. Three of the party developed mild tremors: one a tremor of the eyelids at 14,000 feet, two a fine tremor of the fingers at 21,000 feet. This was an indication of nervous strain. It was a common sign of exhaustion and anxiety amongst those serving in the Great War.

Sleep.—To my mind insomnia was an unpleasant feature. But there were others who suffered from no lack of sleep except when they happened to be cold. Bruce on two nights slept for more than ten hours at 21,000 feet. He had a fair, but somewhat broken, night at 23,000 feet. He had about two hours' sleep at the beginning of the night, then a long period of sleeplessness, then a few more hours' sleep in the morning, when at 25,000 feet. He always slept with his head raised, having learned the trick on the previous expedition. Somervell slept well at 25,000 feet, and had two good spells of sleep at 27,000 feet. Norton, however, takes the record. He slept well and had an excellent night at 27,000 feet. A point about high-altitude sleeplessness is the fact that it is not associated with restlessness, nor does it cause weariness the next day. One lies awake, but does not toss about; nor is the sleep accompanied with irritable dreams.

Glacier Lassitude.—A distinct feature in the Mount Everest region is the very pronounced glacier lassitude which develops over tracts of ice. This was most marked on the Rongbuk glacier, especially when passing through a trough in the ice at an altitude of about 20,000 feet. The trough was a remarkable feature, being girt on either side with walls of ice, in many places hewn into fantastic pinnacles and ornamented with pyramidal spires. In this trough there was a peculiar sapping of energy, a weakness of the legs, and a disinclination to move. It was not a breathlessness due to exertion, but a loss of muscular power. There was a feeling of prostration. One seemed to drag oneself along, instead of going with the usual strength. A profuse sweating was not uncommon. It was something

like the oppression experienced when marching through a hot, moist jungle in the rains. The lassitude appeared immediately after stepping on to the glacier ; it was as quickly relieved on again reaching rock or moraine. It was most noticeable in the absence of wind and in the middle of the day when the sun was strong. It was absent late at evening and in the early morning, and was less marked on cloudy days.

The cause of this lassitude is easily explained. The conditions for its development are a sheet of ice, a hot sun, and a still air. The sun melts the superficial layer of the ice. The lowest stratum of the atmosphere becomes saturated with moisture, but does not rise owing to its being chilled by contact with the ice. Thus, when on the glacier, one is in a saturated atmosphere, and this, in conjunction with the high altitude, is sufficient to cause the unpleasant effects.

We did not notice that other atmospheric conditions had any special influence on these high-altitude symptoms. This was different from my experiences in the western Himalaya. There, on two occasions, our party climbed the same peak to a height of 18,203 feet. During the first ascent the sky was clear, the air was free from moisture, and our disability was slight. On the second occasion the conditions were different. The sky was dark, stormy weather was imminent, and the atmosphere felt heavy and damp. Our distress on this second occasion was acute. Every few paces found us gasping for breath, and we had repeatedly to make short halts. The same explanation applies to this as in the case of the glacier lassitude. On the second ascent the atmosphere was laden with moisture. The free evaporation of perspiration was checked, and, as a consequence, the high-altitude symptoms were increased.

Individual Variation.—The experiences of the party, as already detailed, indicate considerable individual variation with respect to oxygen want. It was obvious that some of us breathed more laboriously than others. One suffered from headache, another did not ; one lost the sense of taste, another observed no such change ; one was sleepless at comparatively low altitudes, another slept well at the highest camps. One member seemed particularly resistant to the lassitude that occurs over snow and ice. All were agreed that the Sherpa porters suffered, on an average, less than Europeans. Their power of carrying loads was extraordinary. They went with loads as fast as did the climbers without loads. It was not that they were muscularly more powerful than we. Probably their actual strength was less. It was their capacity to carry that

was so much greater. This must be due to their permanent habitations being at altitudes of 12,000 to 14,000 feet, and to the fact that they habitually carry loads over passes of 16,000 and 18,000 feet.

Oxygen.—To what extent does the breathing of oxygen alleviate the symptoms already described? Theoretically we should expect an enormous benefit. We know of its great value in balloon ascents, which could not be made to extreme altitudes unless oxygen was breathed. But our evidence on the subject is most unsatisfactory. The two climbers who could have told us most about it have perished on the mountain. Bruce used oxygen on his ascent to the North Col—that is, between 21,000 and 23,000 feet. He noticed scarcely any benefit. Odell used it at the same altitude and considered that it gave no relief. Later he used it between 25,000 and 27,000 feet. There the oxygen seemed to relieve the breathing and diminish the tiredness of the legs. He thinks it may have helped to keep up the temperature. Its use produced an uncomfortable drying of the throat which necessitated frequent swallowing and expectoration. He abandoned the oxygen at 27,000 feet and descended easily without it. It is remarkable how little benefit was obtained from the oxygen compared with the experiences of the previous expedition.

Acclimatization.—I pass to the problem of acclimatization. When we compare a rapid with a gradual ascent we see how powerful is this factor of adaptation to increasing heights. Haldane describes the condition of visitors after a rapid ascent of Pike's Peak to a height of only 14,100 feet. 'Many persons walked or rode up during the night to see the sun rise, especially on Sunday morning, and the scene in the restaurant and on the platform outside can only be likened to that on the deck or in the cabin of a cross-channel steamer during rough weather.' Now the altitude at which this scene took place was about the same as that of the Tibetan plateau. But our ascent to the plateau was gradual, and therefore accompanied by acclimatization. As a consequence we felt scarcely any distress. We were quite comfortable at a height where, if our ascent had been rapidly made, we should have been like the nauseated visitors on Pike's Peak.

But the contrast is more marked if we compare our progress with an air ascent. In the year 1875 Tissandier and his two companions made their famous ascent in a balloon from Paris. They were provided with oxygen but were unable to make use of it. Tissandier fainted at 26,500 feet, and when he recovered

consciousness the balloon was descending and his companions were dead. The balloon had reached an altitude of 27,950 feet. This was a rapid ascent with no acclimatization. The result was death between 26,000 and 28,000 feet even when sitting quietly in a balloon. Compare this with a gradual attack on Mount Everest. Climbers without oxygen have ascended the mountain to 28,000 feet, somewhere about the same height where death occurred in the balloon. Yet at that altitude they were capable of strenuous effort; they showed no indication of fainting; they could sleep well at a slightly lower elevation, and were comparatively comfortable so long as they were at rest. The difference in the two ascents is due to acclimatization, without which any attempt to reach the summit of Mount Everest would be altogether out of the question. The fact is that balloon ascents and experiments in air-chambers are not at all comparable to the conditions of a prolonged climb.

A special point which the expedition of this year taught us is that persons who have once experienced high altitudes will acclimatize very much more rapidly than those entering them for the first time. Those of our party who had been on two expeditions were unanimous in the view that they suffered less on the second than on the first occasion. One said that his mind was much more active than it was in 1922, another that he reached Camp III. with much less difficulty, another that he had not to breathe deeply at night as he had found necessary on the previous expedition. Also it was obvious that the new members of the party were distinctly more affected than the old. This is a point of practical importance. It means that, other things being equal, old hands will acclimatize more rapidly and be in a fitter state to climb the mountain than will be a party of fresh recruits. Even aviators have noticed the same thing. Although their ascents are so quick and short, yet they say that they get accustomed to the height. The body seems, as it were, to become trained by one experience, and therefore to make the necessary adjustments more easily on reaching high altitudes a second time.

To what height can acclimatization continue? There seems to be no doubt of a steady improvement at 19,000 feet. Shebbeare spent over a month at that altitude in Camp II. At first he found the ascent to Camp III. very laborious, but at the end of a month could do it with ease, and on the last day did it in the record time of 1 hour 55 minutes. Odell remained for ten days at 23,000 feet, and said that he certainly felt better

as a result of this. Somervell believed that acclimatization took place at 24,000 feet. But we must remember that while acclimatization is in progress there may be physical deterioration at the same time. Though the body is becoming more accustomed to the altitude, yet simultaneously it is losing both in weight and strength. Dr. Kellas puts the important question: 'Is it possible to become sufficiently acclimatized to altitudes of 24,000 feet to 26,000 feet to enable one to climb to over 29,000 feet?' I think that most of our party would reply in the affirmative. Two of them have already reached 28,000 feet aided by no other power beyond their own natural capacities for acclimatization.

After-Effects.—A note as to the after-effects consequent on residence at the high camps. The climbers were examined before we left the mountain. All of them showed signs of dilatation of the heart; in two it was decidedly marked. All were debilitated. All had wasted considerably—probably as much as $1\frac{1}{2}$ to 2 stone. The porters too had lost much weight. Barcroft observed the same effect on his expedition to Peru. Loss of weight occurred in all the members of his party, the most marked being a decline from 155 to 131 lbs. in twenty-seven days.

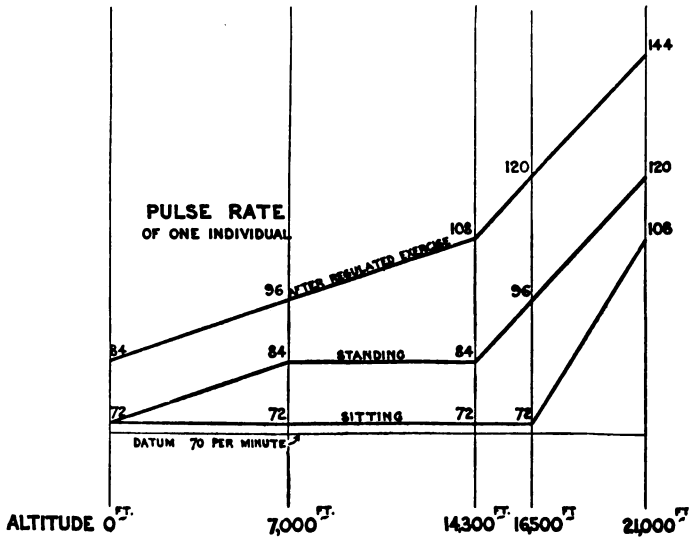
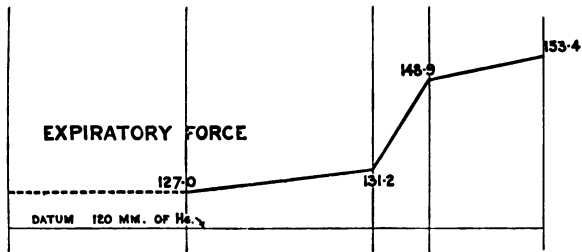
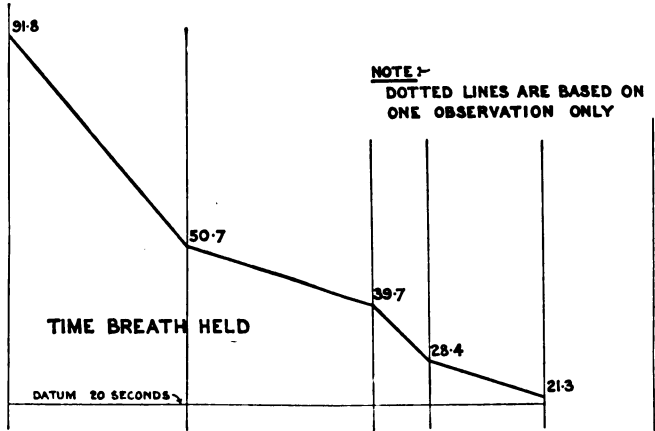
Those of the expedition who had been badly frostbitten required treatment for weeks after we had left the mountain. Frostbite showed itself in two varieties: the moist form with large blisters full of fluid and the dry gangrenous type. Snow-blindness also may need after-treatment. A point of interest was that Norton developed a severe attack of blindness when at high altitudes though in the absence of snow. At 28,000 feet he was on bare rock. He thought it unnecessary to use his snow-glasses, and on the next day he was completely blind. The sun's rays in this thin air can cause a most acute attack of conjunctivitis even when reflected from bare dark rock.

Thus life on the mountain causes physical deterioration. Improvement followed on our return to the base camp, with increase in appetite and better sleep. Finally we descended into the Rongshar valley, where, at the pleasant altitude of 10,000 feet, all were quickly restored to health.

Conclusion.—A last word on the possibility of reaching the summit. In the year 1916, at an afternoon meeting of this society, Dr. Kellas showed an interesting dissociation curve of Oxy-Hæmoglobin in blood. On this curve he plotted the heights of some well-known mountains. From it he drew the following deductions. 'The curve,' he said, 'is very

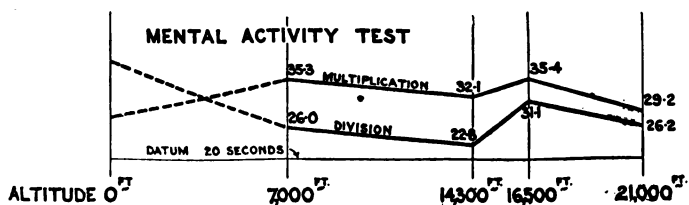
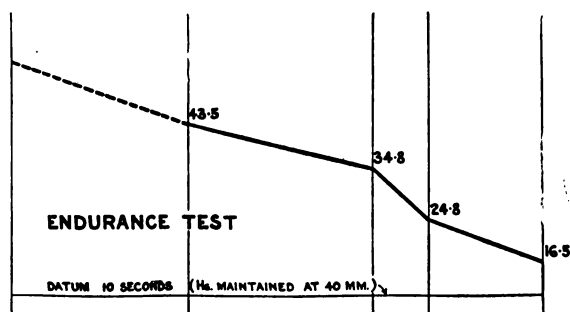
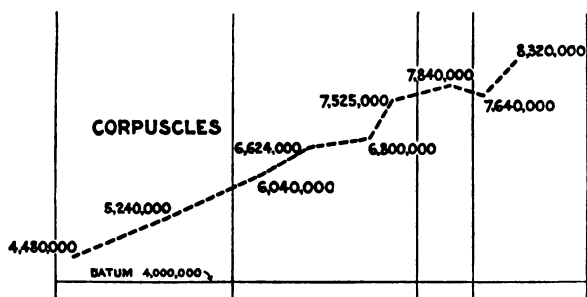
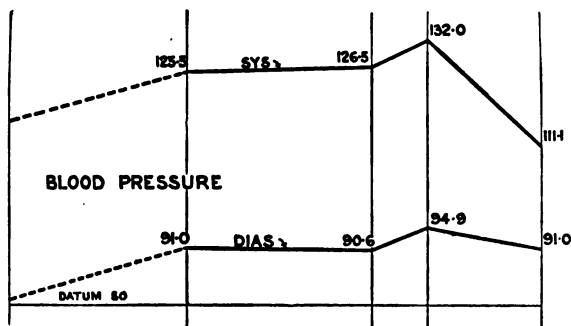
MOUNT EVEREST

PHYSIOLOGICAL DIAGRAM BASED UPON



EXPEDITION 1924.

MEDICAL OFFICER'S OBSERVATIONS.



suggestive. It shows that the strain on the climber is nearly negligible up to 10,000 feet, and at about 15,000 feet becomes appreciable; but one must pass above 20,000 feet before the steepening of the curve indicates that the mountaineer will have to adapt himself carefully to his aerial environment. At 23,000 feet the curve is getting much steeper, and the climber will obviously be put on his mettle above 25,000 feet, for the curve then attains its steepest. Every 1000 feet still higher must mean considerably increased difficulty, and the climber near the summit of Mount Everest will probably be on his last reserves in the way of acclimatization and strength.' This deduction was made before the first assault on Everest, and I think that we can now safely say that our practical experiences bear it out.

I think that climbers will reach the summit of Mount Everest even without the help of oxygen. Though the physiological difficulties are undoubtedly severe, yet they can be overcome. But the condition of the weather must be more favourable than this year. The climbers must be in perfect health and in first-rate training; they must be men of exceptional powers of endurance, and their capacity for acclimatization must be complete.

The diagrams on pp. 36 and 37 show the average effect of all the figures in the tables.

SOME CLIMBS IN NEW ZEALAND AND NOTES ON TASMANIA IN 1921.¹

BY MAJOR H. D. MINCHINTON, M.C.

IN 1920, through Mr. Mannering's kind offices, I arranged to join Mr. H. C. Chambers (A.C.) at the Hermitage early in January 1921.

After many contretemps I eventually found myself at Christchurch on January 27. Mr. Mannering was kindness itself, and I know how ardently he desires visits from climbers outside New Zealand. On January 28 I took the train to Timaru, and on 29th went up to the Hermitage, a wonderful 150-mile

¹ See the map in *A.J.* xxix*, and Mr. Harper's valuable note, xxxiv. 295, on the maps presented by the Surveyor-General of N.Z.

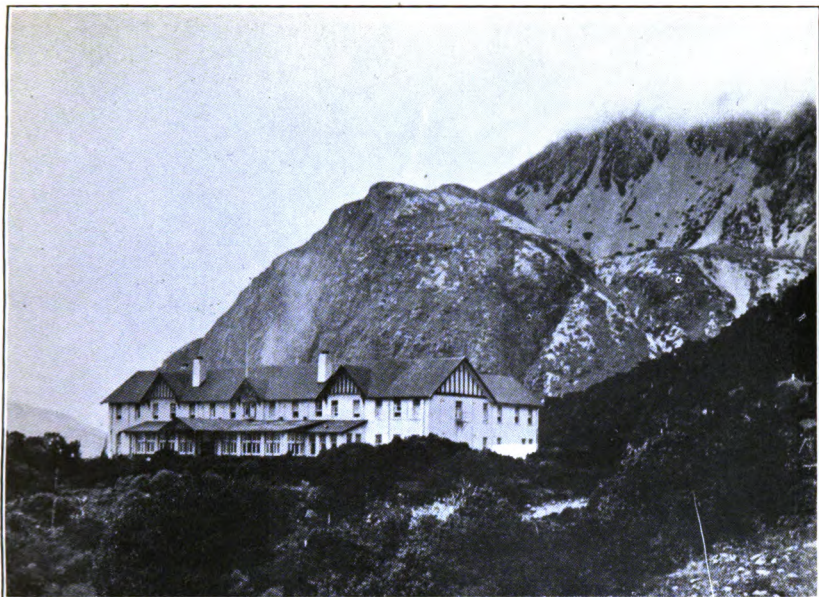


Photo: Prof. Algie.

THE NEW HERMITAGE.



Photo: Prof. Algie.

MT. COOK from summit of Copeland Pass.

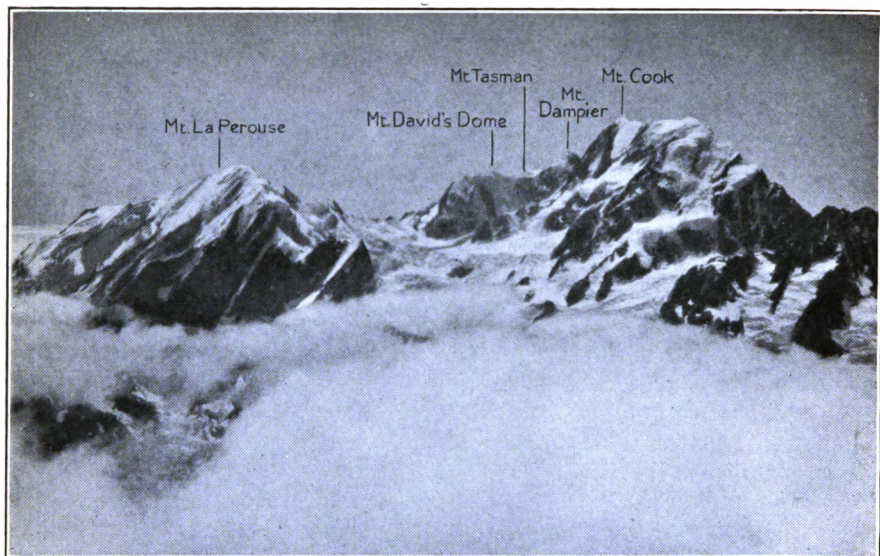


Photo: P. Graham.

LA PEROUSE (left) and MT. COOK
from the FOOTSTOOL.



Photo: P. Graham.

MT. HAMILTON
from Tasman Glacier.

journey by motor, traversing all varieties of country, passing the beautiful lakes of Tekapo and Pukaki and offering magnificent views of the Alps—a day well worth waiting six years for. The new Hermitage is beautifully situated, but it at present caters more for tourists than climbers, and an early start is quite unheard of, so that one is compelled to use huts. But they are splendid. Each contains two rooms, twelve bunks with mattresses and pillows and clean warm blankets, and, moreover, an ample stock of provisions.

Chambers' time was up, but he arranged to spend another week at the Hermitage, and had secured Peter Graham.

I need not dilate on the joys of getting back to climbing after six years' absence. In the eighteen days at my disposal I did not climb Mt. Cook, but had a thoroughly delightful time. One of the greatest charms was that one had the whole of a district to oneself. Climbers are few, and there are still first ascents to make and new districts to explore.

The N.Z.A.C. has been resuscitated, and the Journal is under Mr. Fletcher's care.

One party, composed of Messrs. Kennedy, Fletcher, and Sutton Turner, with the guide J. Lippe, was climbing old and new peaks in the Godley district. Another party, under Mr. Holl, was on the West Coast, and there was a succession of climbers at the Hermitage, including Mr. Chambers, Miss Chambers, Mr. Maughan from Sydney, Mr. Garrick, Professor and Mrs. Algie.

One of the finest ascents of the season was undoubtedly that by Chambers and Peter Graham, in January, of La Perouse (10,101 ft.) from the Hooker Glacier, the second ascent of the peak and *first* from the Hooker side.

After a month's sea trip from India to Tasmania, six weeks' delightful indolence there and twelve days' travelling to the Hermitage, the first few climbs made me realise a want of training, and also that I had forgotten a lot of mountaineering during the last six years—knowledge which returned anon. Chambers would allow me no respite, however, and the day after my arrival he, Maughan, and I started off for the Mueller Hut where Peter Graham was to join us in the evening. Chambers has his own routes in this district, so we started up 'Glencoe gully' immediately behind the hotel. Above the scrub we emerged on a rock ridge which took us to the summit of Mt. Kitchener on the Sealy range, about 6600 ft.—the Hermitage is 2500 ft. Some pleasant glissading, and shale slopes, took us down to the Mueller Hut at 4 p.m.

The idea was to spend a few days climbing from the Hut while the W. (rock) face of Mt. Cook was getting fit. Until one sees one does not realise how big an undertaking it is to climb it from any side, how important the weather is, and how variable N.Z. weather can be.

This day had been perfect, but with Peter's arrival at 6 P.M. the weather changed, and it sleeted, then snowed, for 36 hours. The snow reached nearly to the valley and put Mt. Cook out of condition for the rest of the season. My patience cards proved invaluable during our two nights' incarceration, and then we beat a retreat to the Hermitage.

The following day dawned badly, but after an early tea, Chambers, Maughan, and I set off to climb Mt. Sebastopol—one of the training walks—by a route peculiarly Chambers' own. We followed a steep gully, in which the rope was required twice, and very nearly came to grief in it, as either sheep or chamois showered stones upon us at a spot where the gully was only a few feet wide. It is interesting to note that the N.Z. Government has imported chamois from Europe and tahr from the Himalayas. Both are said to be doing very well and multiplying rapidly. I saw chamois but not tahr.

On the afternoon of February 1 Chambers, Maughan, and I returned to the Hooker Hut, and started at 6 A.M. next day to see how far up the Hooker Glacier we could get. The glacier, as all others this year, was in a very broken condition. At 7 A.M. we were below the icefall nearly opposite the 'Noeline Rocks,' and it took Chambers $2\frac{1}{2}$ hrs. of his best icecraft to get us through and across to the base of these rocks—a fine face of glacier-worn rocks about 500 ft. high. The rocks gave us $1\frac{1}{2}$ hr. of excellent climbing, and on the top we decided to go no farther, so for 2 hrs. feasted our eyes on the gorgeous scenery of the Hooker basin, with the S. peak of Mt. Cook towering straight above our tracks. We got back to the Hut by 4 and went down to the Hermitage.

The next day was again wet, and Chambers, much to our regret, had to leave.

We went up to the Mueller Hut next day, February 4, got off at 5.30 A.M. on February 5 to a perfect dawn, and traversed the Annette snowfield to some rocks, where we left our extra baggage. We then dropped down on to the Métaline Glacier and headed up this for the Col whence the E. arête of Mt. Sealy commences. This is a delightful rock climb, quite sensational in parts as the S. face of the arête drops several thousand feet, nearly sheer, into the Dobson valley. We reached the top of

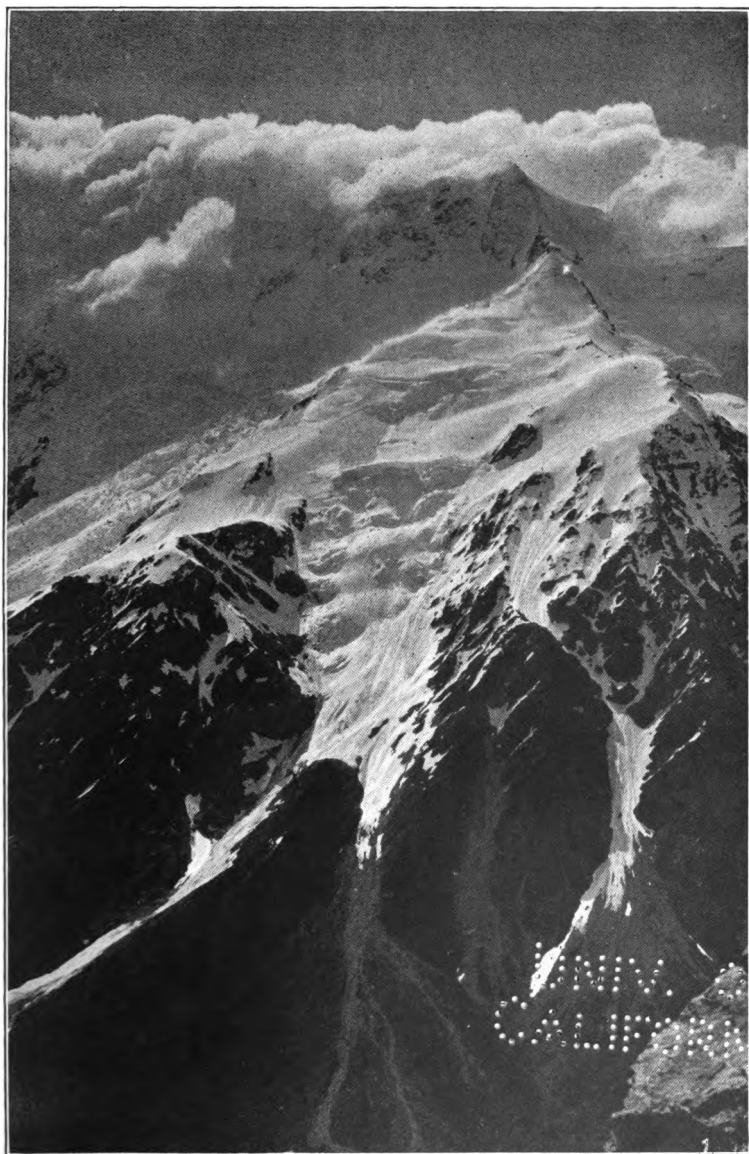


Photo: H. O. Frind.

FOOTSTOOL
from Mt. Wakefield.

to visit
September 1960

Mt. Sealy (8651 ft.) at 9 A.M. and had breakfast there. We then descended the W. face—first rock, then a slope of hard snow, and reached the Sladden névé at the col between Mt. Sealy and Mt. Jean. The E. arête of the latter, at the foot of which we now stood, had looked very steep from Sealy, and on the first ascent, made by Maughan and Conrad Kain, in 1915, they had avoided this arête. However, Peter Graham said it would 'go,' and it did—providing an hour's first-rate rock climbing—and possibly at least a new variation. Half-past one saw us on the top (8200 ft.), whence we made a quick descent N.E. to the Sladden Glacier. We crossed the 'Sladden Saddle' and hastened across the Métaline névé to our *cache* of baggage—the day meantime having clouded over. Picking up our kit, we headed for Mt. Annette in a flurry of snow and driving wind. We crossed the Sealy range just under the summit of Annette and got on to a steep little glacier down which we hurried, alternately cutting and glissading. We then traversed to our left to get on to the Annette-Sebastopol ridge and into the sunshine again. A few hundred feet lower we left this ridge and dropped down steep grass slopes into 'Black Birch Creek,' where, after making tea, we followed the stream down to the hotel in time for dinner. Maughan's time was up, but Mr. K. Garrick, of Christchurch, kindly agreed to join me.

The next day, February 7, we left the Hermitage about midday and rode up to the Ball Hut—where we arrived at 2 P.M., and, leaving the horses to look after themselves, started at 3.30 P.M. for the 10-mile tramp up the Tasman Glacier to the Malte Brun Hut. We had a most unpleasantly cold and wet journey, reaching the Hut in a little under 4 hrs.

Malte Brun would be out of the question with iced rocks; the snow slopes of the 'Minarets' were so broken and crevasses so open that they had defeated Professor Algie's party two days before; Elie de Beaumont was obviously in bad condition, but there still remained a small selection of peaks which might 'go' well. In the morning we decided on Mt. Hamilton (9980 ft.), which is a wonderful view point—and not hard.

The mists hung about and we had to wait till 7.30 to start off up the Tasman Glacier, branched off up the Darwin Glacier, and then again up the left bank of the first tributary of the Darwin—the Bonney Glacier. We got somewhat emmeshed in the icefall, but Peter got us across to the base of a long snow slope—badly crevassed at its foot. We worked up through séracs to easier going above, and at the head of the snow slope 100 feet of rotten snow-covered rock gave

access to a shoulder of Mt. Hamilton—about 1000 ft. below the summit. An hour's easy scrambling took us to the large comfortable summit at about 1 p.m. Mt. Hamilton is connected with Malte Brun by a long ridge, and gave us a fine view of the latter and of the peaks surrounding the Tasman, Murchison, and Godley Glaciers, as well as of Mt. Cook.

We descended at a good pace, and reached the Hut at 6 p.m. For the following day I suggested an ascent of Mt. Chudleigh (9915 ft.) close to Malte Brun and only once previously climbed. The first party had bivouacked under the peak, whereas we had to do some rough scrambling in the moonlight. Shortly after dawn we had to drop down about 1500 ft. to cross the head of a subsidiary valley, and found the re-ascent very tiring. Above this we gained a small glacier succeeded by a névé ending in a steep snow slope—our objective being some rocks above this, leading to the Chudleigh snow arête. The snow slope was frozen hard, and, to save much cutting, we took to the rocks on its right bank—apparently a variation of the first ascent—and so reached our objective rocks at the foot of the snow arête.

It was a brilliant and exceedingly hot day.

The snow arête is about 800 yds. long and rises gradually to the base of the final 1000 ft. of rock. It was in splendid condition, but Peter had to cut steadily, mostly just below the crest. The rocks above commenced with a good piece of sound climbing, but then turned as rotten as they possibly could. Peter stepped on to what we had thought from below was the summit, only to see it 100 ft. away at the end of a narrow ridge in the last stage of rottenness. We turned this rotten ridge by a traverse, crossing two couloirs to reach a ridge ending close to the summit, composed of a few very loose and crumbly rocks, apparently ready to be hurled into space by the next storm.

The view from Chudleigh is very similar to that from Hamilton, except that one sees the other side of Malte Brun and gets a closer view of the ever-fascinating Mt. Cook.

We started down a snow and loose rock couloir ending near the top of our snow arête, and following more or less our line of ascent we reached the Tasman Glacier and crossed it to the Ball Hut (7.15)—rather weary after 15½ hrs. out, 13 hrs. actual going.

The next day we rode leisurely back to the Hermitage, finding the Algie's party just returned from two good days on Sealy and Maunga Ma.

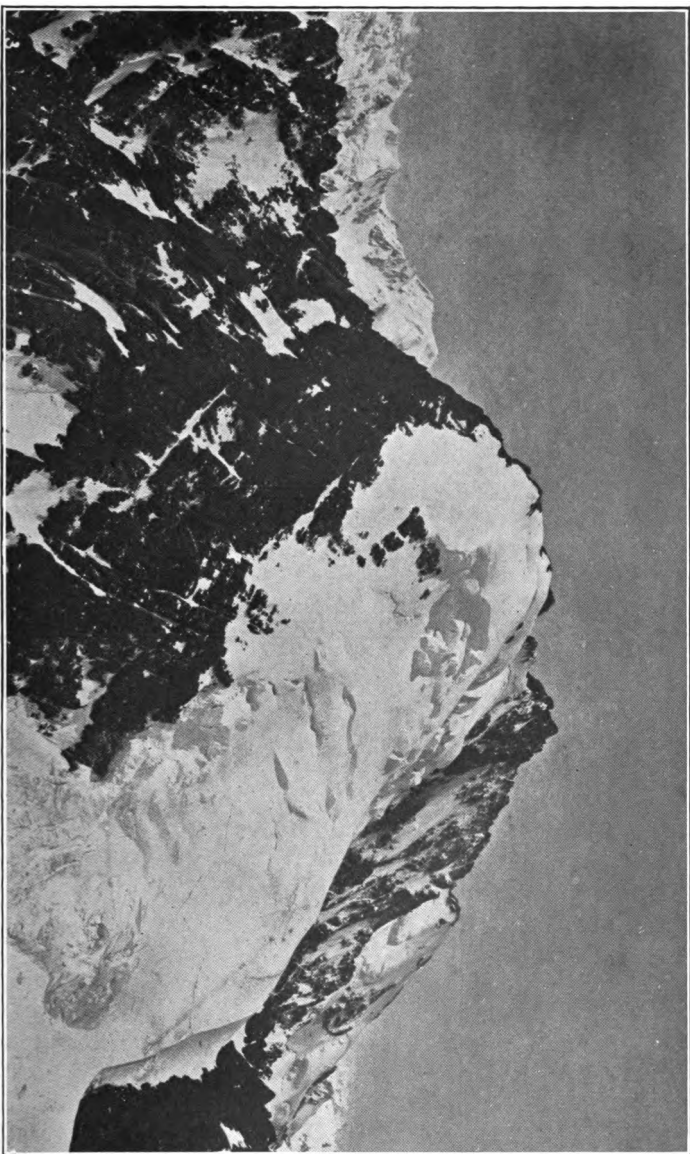


Photo: P. Graham.

CHUDLEIGH
from Mt. Johnson.

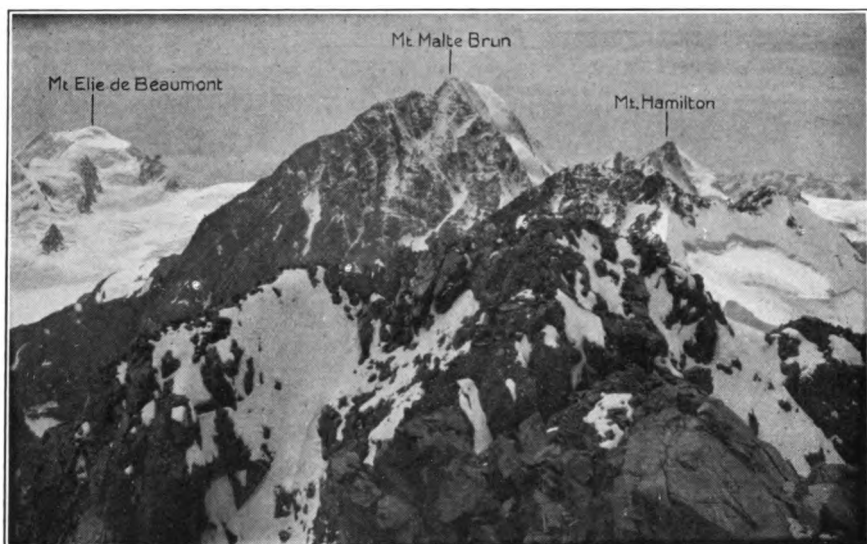


Photo: P. Graham.

VIEW FROM CHUDLEIGH LOOKING N.E.

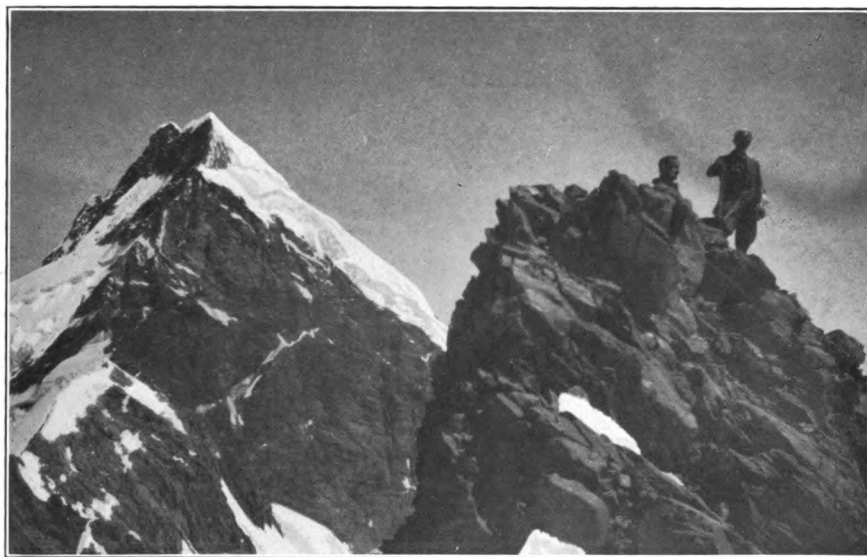


Photo: P. Graham.

SUMMIT OF FOOTSTOOL FACING S.W.
Mt. Sefton opposite.

I had now only three days left. The next one was naturally wet! However, it began to clear next morning (February 12), and we wended our way to the Hooker Hut in the evening. The climb projected was to go up the Fitzgerald Pass and traverse along the watershed to the 'Footstool' (9073 ft.), taking 4 small peaks *en route*, and descending *via* the Sefton bivouac to the Hermitage. It is a long day, but little difficulty, with wonderful views to the West Coast and the lakes and plains to the E., besides of nearly every peak in the Southern Alps. Three or four parties had previously done this—Maughan's party took 16 hrs.

A storm came on and it blew hard all night. It was not fit to start till 4.30, clouds still pouring over the Fitzgerald and Copland Passes, into which we soon plunged. At the worst we hoped to reach the Copland Pass. After some 2500 ft. the routes to the two Passes divide and we decided to make for the Fitzgerald. We crossed the Fitzgerald Pass in driving mist and climbed the rocks of the first peak—Madonna (7600 ft.). As we reached the top the mist slipped away, and we found ourselves above a magnificent sea of clouds, stretching out to the sea on the W.; from which feelers were creeping over the passes and vainly trying to establish a hold in the Hooker valley. Our traverse lay clear ahead of us, and we soon passed over the summits of Dufour (7800 ft.) and Cadogan (7850 ft.) peaks, getting a little scrambling here and there. Then we got a good scramble of about 500 ft. up an 'unnamed peak,' (8000 ft.) and reached a col immediately N. of the 'Footstool' very hungry after 5 hrs. continuous going. We halted for 1½ hr. for a solid meal—meantime the day became hot. At 11 A.M., leaving our sacks, we started off up the final 1000 odd ft.—snow, rock, more snow, a little ice and easy rock—and a few minutes before midday we were standing on the top of the 'Footstool,' taking in the perfectly wonderful view on every side. Far to the W. we could see the breakers on the beach, below us lay the Copland valley, mountains innumerable around, the cliffs of Sefton close by, and far below the Hermitage with a line of figures on the terrace, their glasses fixed upon us.

At 1 o'clock we reached our sacks, and dropped down to the Eugénie névé, gradually descending to the E., cutting and making short glissades, until we struck the rock ridge running from the top of 'Footstool' towards the Hooker valley. Getting on to the ridge, we only kept down it for a 100 ft., then got off it on the far side on to the Stocking névé, traversed

this till above the Sefton bivouac, gained by a good glissade (3 P.M.). Peter then led down steep grass slopes to the moraine of the Mueller Glacier, which we crossed to Kea point, reaching Hermitage at 5.45 P.M.—a glorious last day. Our time was 13½ hrs., including 2½ hrs. halts.

Tasmania, though but a small spot on the map, is probably one of the most mountainous places in the world; with the exception of some sixty miles in the 'midlands,' it is a mass of mountains, even to the seashores. These mountains are not high and have no permanent snow, yet they are mostly very rugged, and, combined with the wonderful forests and bush, comprising a large variety of trees both great and small, which clothe the lower slopes, cut by rivers and dotted with lakes and tarns, they form very fine and beautiful mountain scenery. A few summits exceed 5000 ft. The 'Butts Peak' of Ben Lomond—a massif several miles long—was always considered the highest point in the island. Then Mr. L. Giblin, one of Tasmania's keenest explorers and stoutest walkers, camping out on Ben Lomond, proved that 'Legge's Peak' of Ben Lomond was a few feet higher. Yet others still assert that Mt. Pelion, or Barn Bluff, or both of these, are higher than anything on the Ben Lomond massif.

The tree line runs to about 4000 ft., above which stretch moors like Yorkshire, from which the various summits rise, generally boulders for the last 400 ft. In most cases, one side of these summits will drop in a fine precipice often for 1200 ft. and more, and on these faces Cumberland and Welsh climbers would find infinite work and pleasure. Ben Lomond has miles of huge cliffs, all fine climbing. Snow covers the higher summits in the winter and ski-ing is to be had in places in the interior. Through the kindness of my friend, Mr. Rupert Shoobridge, I was enabled to see a little of these mountains.

On April 19 we started from his house at Glenora in the Derwent valley at 7 A.M. and motored to the National Park, a preserve of 35,000 acres for forest and game—about 8 miles off, and carried our packs up through gorgeous virgin forests to the Hut at Lake Fenton (3500 ft.), 6½ miles. We were carrying bedding, food for two days, a 'billy,' etc., and I was not sorry to reach the Hut about 11 o'clock. After lunch we leisurely followed a slightly defined track through beautiful woods and across 'Kangaroo Moor' to 'Mt. Field East,' (4160 ft.), partly to prospect our route up 'Mt. Field West'

for the morrow—a mountain proverbial for storms, which had defeated Shoobridge's two previous attempts to reach it.

Getting back to the Hut at 4 p.m. we found the forest ranger there, and he expressed his wish to accompany us next day. We left the Hut at 7 a.m., crossed 'Wombat Moor,' passed Lake Dobson, ascended 500 ft. of steep hillside, past the tree-line to a ridge, some miles long, called Mt. Mawson. We traversed nearly the whole length of this ridge—mostly boulders—getting lovely views of forest and lake scenery. At last we came to a col separating us from our peak, descended to it and ascended a long gentle slope to a moor covered with little tarns of every size. Many of these were frozen over, and a lot of snow lay about from a recent autumn storm. A mile away our peak rose a few hundred feet above the level of the moor, and an easy boulder scramble took us to the top at 11 a.m. (4760 ft.). The W. face drops in a wonderful precipice for 1500 ft. with fine couloirs, chimneys, and arêtes, and looks out over a broad valley of virgin forest. We could see from Mt. Wellington in the S., to Ben Lomond in the N.E.—with tier upon tier of rugged summits as far as the eye could reach to the W. A lot of this W. country still remains unexplored, and is very hard of access, necessitating packing one's kit for days, and often cutting a track through thick bush at the rate of a few miles a day.

We spent an hour on the top (sheltering from a gale from the N.E.) taking in the view and boiling the billy, and then a nasty looking sky warned us to hasten back. 'Field West' kept up its reputation. Before we were back at the col it had commenced to snow, turning to rain, and by the time we reached the Hut at 3.30 p.m. we were drenched. We left in sunshine at 4.15, but were again drenched by the time we reached the car at 6.15 p.m.—having covered $22\frac{1}{2}$ miles, mostly over pretty rough ground. Half an hour's drive saw us back at Glenora and comfort.

In May we were round at Scamander on the East Coast, fifty miles from Ben Lomond. Mr. Shoobridge proposed that we should take a two-day trip to it—another new summit for him also. On May 7 we left at 10 a.m., motored through Fingal and Avoca, then turned up a very steep hill road to reach Storey's Creek—where there was a tin and wolfram mine and huts. The mine was closed down—the usual strike—but the manager very kindly showed us over the works, and entertained us in the evening. Storey's Creek is about 2500 ft. up, leaving us about 2600 ft. to climb on the morrow. After

a poor night in a mining 'hotel' we started by the light of my lantern, soon greeting a gorgeous sunrise. The 'Butts Peak' lay closest to us, but we meant to try to find the alleged highest point—'Legge's Peak'—if possible. The 'if possible' meant an extra 8 miles *each way*, and I doubted if I could manage it, having twisted an ankle a week before. We worked up through the forest—once getting nearly held up by the dense bush—and then came out on a slope of shale and boulders which gave access to the moor forming the broad summit ridge of the massif—dotted with many tarns. We crossed a mile of it and climbed a summit to prospect. The 'Legge's Peak' end appeared to contain about 4 summits all of the same height—we might easily climb the wrong one when we got there and waste another 14 miles walk—my ankle was paining a good deal, so we decided to make for the 'Butts Peak,' which would give us a 12 mile day of scrambling. After about 2 miles of walking we arrived at the base—and put in about 200 ft. of quite nice scrambling up rocks and chimneys to arrive at the summit (5160 ft.).

We had a most perfect day for visibility—unusual in May—and could see from Flinders Island in the Bass Straits, to the N. of the island, to Mt. Wellington in the S., and our old friend 'Field West' and innumerable summits to the W. The midlands—the finest pastoral part of the country—lay like a map at our feet over 4000 ft. below. The E. side of the 'Butts Peak' contains work which would delight the British rock climber. Leaving the top about midday we crossed to the edge of the moor, scrambled down a stream bed into the woods and reached Storey's Creek at 2.30, left in the car again at 3.45, and reached Scamander at 6.45 in the dark.

Besides the scrambling and views and wonderful forests, one is able to see, during those trips, some of the wild life of the country—kangaroos and wombats, black cockatoos, eagles, and opossums—all of which adds much to the interest of these 'treks.'

On returning to Hobart we finished with Mt. Wellington by a most excellent track and enjoyed a grand view of the South Coast. I hope to see more of these delightful mountains one day.

SIDE-VALLEYS AND PEAKS OF THE YELLOWHEAD TRAIL.*

By J. MONROE THORINGTON, M.D.

' . . . Is this the summit, crowning the day? How cool and quiet! We're not exultant; but delighted, joyful, soberly astonished. . . . Have we vanquished an enemy? None but ourselves. Have we gained success? That word means nothing here. Have we won the kingdom? No . . . and yes. We have achieved an ultimate satisfaction . . . fulfilled a destiny. . . . To struggle and to understand—never this last without the other; such is the law. . . . We've only been obeying an old law then? Ah! but it's the law . . . and we understand—a little more. So ancient, wise and terrible—and yet kind we see them; with steps for children's feet.'—G.H.L.M. (*A.J.* xxxii.).

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a poor night in a mining 'hotel' we started by the light of my lantern, soon greeting a gorgeous sunrise. The 'Butts Peak' lay closest to us, but we meant to try to find the alleged highest point—'Legge's Peak'—if possible. The 'if possible' meant an extra 8 miles *each way*, and I doubted if I could manage it, having twisted an ankle a week before. We worked up through the forest—once getting nearly held up by the dense bush—and then came out on a slope of shale and boulders which gave access to the moor forming the broad summit ridge of the massif—dotted with many tarns. We crossed a mile of it and climbed a summit to prospect. The 'Legge's Peak' end appeared to contain about 4 summits all of the same height—we might easily climb the wrong one when we got there and waste another 14 miles walk—my ankle was paining a good deal, so we decided to make for the 'Butts Peak,' which would give us a 12 mile day of scrambling. After about 2 miles of walking we arrived at the base—and put in about 200 ft. of quite nice scrambling up rocks and chimneys to arrive at the summit (5160 ft.).

We had a most perfect day for visibility—unusual in May—and could see from Flinders Island in the Bass Straits, to the N. of the island, to Mt. Wellington in the S., and our old friend 'Field West' and innumerable summits to the W. The midlands—the finest pastoral part of the country—lay like a map at our feet over 4000 ft. below. The E. side of the 'Butts Peak' contains work which would delight the British rock climber. Leaving the top about midday we crossed to the edge of the moor, scrambled down a stream bed into the woods and reached Storey's Creek at 2.30, left in the car again at 3.45, and reached Scamander at 6.45 in the dark.

Besides the scrambling and views and wonderful forests, one is able to see, during those trips, some of the wild life of the country—kangaroos and wombats, black cockatoos, eagles, and opossums—all of which adds much to the interest of these 'treks.'

On returning to Hobart we finished with Mt. Wellington by a most excellent track and enjoyed a grand view of the South Coast. I hope to see more of these delightful mountains one day.

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viewing the mountains of the railway zone than from the caboose of a slow-moving 'side-door pullman.' If the engineer happened to be good-natured, one rode up in front on the cow-catcher, with every opportunity for photographs, and perhaps, if there was a delay in waiting for an express to pass, the chance to go fishing with the train-crew.

Road-beds of the mountain area, recently constructed, were not yet equal to the strain imposed upon them. We started off early in the morning, up the sun-flecked valley of the Miette, and on through Yellowhead Pass. Standing on the rear platform, looking across to the heights of Mt. Fitzwilliam, we were startled by a crashing and grinding. Jumping off, we saw that a spread rail and a buckled truck had wrecked the whole train ahead, and that several huge loads of groceries had spilled down the embankment of the Fraser River, with more than one car slanted out on a precarious angle and threatening to follow.

So the engineer wired for a wrecking crew, and the trainmen got out their fishing-tackle. We were only half-way to Robson, and I walked back along the tracks to Lucerne to await another train that was due on the Canadian Northern road. It was a pleasant stroll; there was no reason for hurry—a small boy informed me that the train was four hours late—and the time was passed on the lake shore, where duck were swimming and the placid water mirrored the peaks of Yellowhead.

It was again dark when we started westward. The night was calm and clear, and a red, waning moon rose over the hill-tops as we neared Moose Lake and the Rainbow Range. As for Mt. Robson, we had seen it from Tete Jaune, and knew that the mountain lay N. of the Fraser; but of the trails through the intervening valleys and forests we had no knowledge. Still we were determined to go as close as possible to that loftiest of mountains.

It is an interesting little adventure to look back upon. In those days we were quite unfamiliar with the ways of the trail; we had no equipment save a rucksack filled with provisions; it was late in September. The train slowed down to let me off by the box-car filled with hay, which then served as Robson Station. It was midnight; I was alone, and a cold wind blowing from the W. and the rising moon were my sole companions when the train had passed around a bend and out of sight. And so I started off along the tracks in the semi-darkness, scarcely able to restrain my eagerness for a sight of the mountain. Youth does such things!

The vision appeared ! Mist and vapour play strange tricks with one's judgment of size and distance—moonlight affects it in perhaps an even greater degree. There it was : Robson, 'the mountain of the spiral road,' seeming to touch the very heavens, flooded with soft light and gleaming like molten silver. Nothing since then has quite equalled the impression of stupendous height that Robson gave on that starlit night of years ago. It seemed to me then as if I were gazing up to the throne of some Divinity, although maturer years have somewhat tempered this idea to the thought that there is merely a feminine quality in some mountains, which makes them best seen at night.

But certainly that did not enter my head at the time. I sat down on a trestle and dangled my legs over the side, and looked and looked. But even contemplation of the sublime cannot maintain the body temperature on a freezing night. I got up and moved slowly along, rubbing my eyes and still half afraid that they were deceiving me. And then a piece of luck : a bobbing twinkling light along the rails ahead. It was carried by an outfitter who still had some horses down in the Grand Forks ; and in a few minutes we had arranged for a little trip to Robson Pass. I was glad at the thought of company who knew the way.

The keeper of a section-house put us up for the night, and next morning we went down for the horses. There was then no bridge over the Fraser, but a log-jam, long since departed, afforded a place of crossing. We rounded up the cayuses, and finished off a tremendous breakfast of bear meat and potatoes. On the preceding day a large black bear had been ambushed on a nearby berry-slide, and the hide was now nailed up on the door of the shack. A 'homesteader,' whose section is in the angle of the Grand Forks, came over and joined us as cook. We were off shortly after seven o'clock, three riders and two pack-horses, not long after the first sunbeams reached us across the high hills bordering the Fraser.

The trail is unforgettable in its beauty, with spruce and cedar trees straight and perfect above a carpet of berries, fern-brakes, and devil's club—tropically luxuriant. The stream descends in cascades and rapids, with the southern cliffs of Robson almost above one's head. Far behind, in the direction of Tete Jaune, rises the multicoloured ridge of Mica Mountain in the Cariboos. We are soon in Robson's shadow and the top is no longer in sight. Turning a corner we come out on the shore of Kinney Lake, with the slopes of Little

Grizzly and the pinnacle of Whitehorn far above. Just now there is not a cloud to relieve the deep blue of the sky, nor a ripple on the lake to disturb the images of tall trees and soaring peaks.

Rounding the northern shore of the lake, through the trees along the water's edge, we cross the expansive delta of glacial silt at its western end and take up the trail again in the Valley of a Thousand Falls. There is a beautiful glacier and a rock-spire at the valley head, and if not quite a thousand falls come streaming down from the cliffs on either side, the number is at all events most satisfactory and surpassed only by the beauty of their unbroken height. We cross through rushing streams, and slowly climb up the 2000 ft. of zigzag trail, cleverly engineered with wooden trestles, to the upper levels where the roar of Emperor Falls is heard—dissonant to our vocal efforts in urging the horses along.

Across the deep valley-trench, Whitehorn is magnificent with its icy arête and hanging glaciers, above a black precipice streaked with thread-like, silvery waterfalls. Beyond the misty rainbows formed in the cauldron of Emperor Falls, above tier on tier of horizontal strata and cliff-belts, rises Mt. Robson, steep and snowless, into an enormous wedge. Skirting a burned-over, level area, and emerging from the woods, we reach the marshy flats at the western end of Berg Lake, with distant views to Robson Pass. The northern side of Robson is sheer, but snow again appears. The little basin at the foot of the snowy Helmet gives rise to the 5000 ft. of ice-fall known as the Blue, or Tumbling, Glacier. There are few places in the world where lake scenery can equal this prospect; as we ride along, bits of the ice-front break off with a crash, and the fragments add to the number of floating bergs already sparkling on the dark blue water.

It was not for a number of years—the Great War had come and gone—that we could come back again; not until the summer of 1924. We had been to Athabaska Pass, to the peaks of Tonquin, and on to Yellowhead. It was a July day, the 17th, and cloudy, to be exact, when Ostheimer, Conrad Kain, and I unloaded our packs before a crowd of curious tourists at Robson Station.

How changed things were! Cabins had sprung up like mushrooms; there was a broad trail, leading to a well-engineered bridge spanning the Fraser Canyon; permanent camps on the summit of Robson Pass made it unnecessary to

use horses, or even carry provisions. It was getting altogether too civilized !

At Kinney Lake we met the Oberland guides, Hans Kohler and Alfred Streich, employed by the Canadian National, and next morning all went up to the cabins on the pass. We were quite ready to believe the Indians' statement that the top of Robson is rarely beheld by human eyes ; the weather seemed to be getting worse, fog hanging in the valley and blowing in from the Fraser and back again from the Smoky. The mountain rises so much above its immediate surroundings—scarcely a peak nearby approaches within 2000 ft. of its elevation—that, by its very isolation, it becomes a storm centre. I thought longingly of the cloudless September days in another year.

On July 20, although it was cloudy and a high wind blowing, we all decided that something must be done. It occurred to us to try Resplendent (11,240 ft.), and go up as far as we could. So we started off at half-past six, and made our way to the Robson Glacier, wandering up to the séracs and through a portion of them, killing time in the hope that the wind would die down. The glacier originates in the high saddle and extensive névé fields between Robson and Mt. Resplendent, an extensive area of sérac and crevasse running eastward to a curious buttress, resembling a candle-snuffer and known as the Extinguisher, whence the level and nearly unbroken glacier runs northward for three miles to the pass.

It was amusing to try the rocks of the north arête, the crest of which, as far as we knew, had never been followed throughout. Roping a little below the schrund, we were as well guided a party as has ever tackled a Canadian mountain. Ostheimer, with Kohler and Streich, made one rope, while Conrad and I followed behind, showing wisdom therein, as we could use them for a wind-break while they cut the steps. Streich had quite a job of it ; terribly cold, with the slopes below the rocks steep and hard. However, in an hour we were in the lee of a rocky pinnacle and enjoying a second breakfast of bread and sardines. Conrad and I then went ahead and found some quite delightful climbing in a short stretch of chimneys and slanting slabs, where handholds were few and body friction alone kept one from swinging sideways on the rope. At one o'clock we were on the upper snow-level below the peak ; everything was enveloped in swirls of mist, but the wind had lessened in force and we could occasionally see for a short distance ahead. Resplendent is not an easy mountain on which to lose the way, and though there was no view to

be had, Conrad led us through the fog to the steep-corniced summit in another ninety minutes. There was still enough of a gale, so that the last portion had to be done carefully; Streich cut up to the cornice, while the rest of us crouched down in the driving snow and anchored. Each of us had a look over the edge, and then we beat a retreat to the western snow-col.

Under the edge of the fog-level we looked far out across the Fraser Valley to the Cariboos and peaks beyond. There was a momentary glimpse of Robson's Peak, rising like a sword-point, vanishing again in the veil of billowing cloud.

On the 22nd, although clouds hung low, a large party of the Alpine Club of Canada, on three ropes, ascended Lynx Mountain (10,471 ft.), an attractive peak of the Robson cirque, commanding a widespread view of Coleman Glacier and Resplendent Valley. One ascends snow slopes, with a few steps to be cut, nearly to the south-western saddle, whence a broad highway of rising shale leads to the summit. (Ascent, 9.00-8.00.) Resplendent and Robson appeared several times, never quite clear, but moist and shadowy in the mist.

Professor Coleman ⁵ may be considered the first to approach Mt. Robson with the idea of climbing it. As early as 1907, he and his companions had come over the Saskatchewan and Athabaska trails from Laggan, and had reached the head of Grand Forks Valley. They returned again in the year following, going in from Edmonton and gaining Robson Pass by way of Moose Pass and the Smoky. After several attempts in bad weather, a final climb from the glacier broke down at 11,000 ft.

In August 1909 Rev. G. B. Kinney and Donald Phillips ⁶ attained the summit crest by way of the N.W. arête and western face. It was a fine, sporting effort and deserves the credit of a first ascent. Later in the summer a party of distinguished British mountaineers—Messrs. Amery, Hastings, and Mumm, under the guidance of Moritz Inderbinnen—had a further try at the eastern face,⁷ but desisted after a narrow escape from an avalanche. The very highest point was not attained until A. H. MacCarthy and W. W. Foster, with Conrad Kain, reached it during the summer of 1913. Their route was also by the dangerous eastern slope, but descent was made in a south-westerly direction, with a night out, to Kinney Lake.

⁵ *The Canadian Rockies, New and Old Trails*, A. P. Coleman (T. Fisher Unwin, London, 1911), p. 313 *et seq.*

⁶ *C.A.J.* vol. ii. No. 2, p. 21.

⁷ *A.J.* xxv., p. 302.



TRAVERSE OF THE GREAT COULOIR.

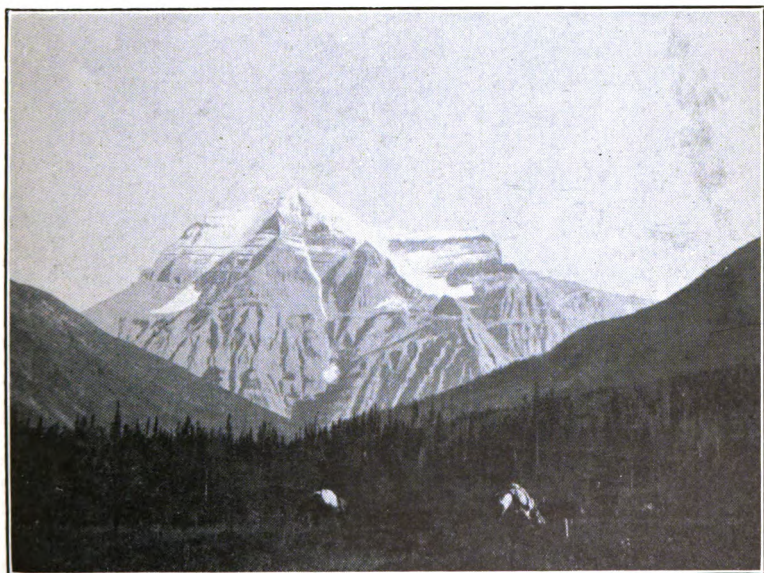


Photo: J. M. Thorington.

MT. ROBSON
from Grand Forks Valley.



LOWER ICE-FALL
between Arête and Breakfast Place.



Photo: H. Pollard.

JUNCTION OF S.W. RIDGE WITH SUMMIT ICE-CAP.
(Party about to traverse below ice-fall.)

Conrad then said of the south-western ridge:⁸ 'There is no doubt that this ridge will be the future route to ascend to the summit of Mt. Robson. But the climb cannot be done from Lake Kinney in one day. It will be necessary to build a hut at the head of the Lake Kinney Valley. The snow conditions on the highest peaks of the Canadian Rockies can never be compared with those in the Alps, as there are more avalanches in the Rockies on account of the dryness of the atmosphere, which leaves the snow powdery and unpacked. And so I may say that Mt. Robson will always be a risky climb, even on the easiest side, on account of avalanches.'

He stated further:⁹ 'In all my mountaineering experience in various countries, I have climbed only a few mountains that were hemmed in with more difficulties. Mt. Robson is one of the most dangerous expeditions I have made. The dangers consist in snow and ice, stone avalanches, and treacherous weather.'

During the ten years since, Conrad no doubt modified this opinion of the mountain; but his view in regard to the length of the climb was unchanged. And so, although we had come to the foot of the all-highest, I had very little idea of doing more than look up at it from lesser heights. But the wretched weather had most of the time effectually prevented even that much.

Vacation time was drawing near a close, and we realized that the trial must be made now, or postponed for a long time. With Messrs. Geddes, Moffat, and Pollard—fellow-members of the Alpine Club of Canada—we packed down to Kinney Lake on July 23, pleased to be chosen for an attempt.

Mt. Robson may be considered as a gigantic wedge, rising—although structurally the lowest point of a syncline—in buttressed heights to the summit ice-cap, 10,000 ft. above the Grand Forks Valley. On its northern slopes, exposed for only 7000 ft., it presents a spectacle of snow and ice; but the western and southern slopes, above timber-line, are comparatively bare and rocky. It was this southern aspect that we had beheld from the mountains of the Whirlpool, when we marvelled at the lonely isolation of the great peak. From that point of view the precipitous south-eastern shoulder had been so foreshortened as to be almost indistinguishable; but now, from the shore of Kinney Lake, it was the lower cliffs and couloirs, with their lines of horizontal strata, which attracted our attention.

⁸ *A.J.* xxviii., p. 38.

⁹ *C.A.J.* vi., p. 28.



LOWER ICE-FALL
between Arête and Breakfast Place.



Photo: H. Pollard.

JUNCTION OF S.W. RIDGE WITH SUMMIT ICE-CAP.
(Party about to traverse below ice-fall.)

Conrad then said of the south-western ridge:⁸ 'There is no doubt that this ridge will be the future route to ascend to the summit of Mt. Robson. But the climb cannot be done from Lake Kinney in one day. It will be necessary to build a hut at the head of the Lake Kinney Valley. The snow conditions on the highest peaks of the Canadian Rockies can never be compared with those in the Alps, as there are more avalanches in the Rockies on account of the dryness of the atmosphere, which leaves the snow powdery and unpacked. And so I may say that Mt. Robson will always be a risky climb, even on the easiest side, on account of avalanches.'

He stated further:⁹ 'In all my mountaineering experience in various countries, I have climbed only a few mountains that were hemmed in with more difficulties. Mt. Robson is one of the most dangerous expeditions I have made. The dangers consist in snow and ice, stone avalanches, and treacherous weather.'

During the ten years since, Conrad no doubt modified this opinion of the mountain; but his view in regard to the length of the climb was unchanged. And so, although we had come to the foot of the all-highest, I had very little idea of doing more than look up at it from lesser heights. But the wretched weather had most of the time effectually prevented even that much.

Vacation time was drawing near a close, and we realized that the trial must be made now, or postponed for a long time. With Messrs. Geddes, Moffat, and Pollard—fellow-members of the Alpine Club of Canada—we packed down to Kinney Lake on July 23, pleased to be chosen for an attempt.

Mt. Robson may be considered as a gigantic wedge, rising—although structurally the lowest point of a syncline—in buttressed heights to the summit ice-cap, 10,000 ft. above the Grand Forks Valley. On its northern slopes, exposed for only 7000 ft., it presents a spectacle of snow and ice; but the western and southern slopes, above timber-line, are comparatively bare and rocky. It was this southern aspect that we had beheld from the mountains of the Whirlpool, when we marvelled at the lonely isolation of the great peak. From that point of view the precipitous south-eastern shoulder had been so foreshortened as to be almost indistinguishable; but now, from the shore of Kinney Lake, it was the lower cliffs and couloirs, with their lines of horizontal strata, which attracted our attention.

⁸ *A.J.* xxviii., p. 38.

⁹ *C.A.J.* vi., p. 28.

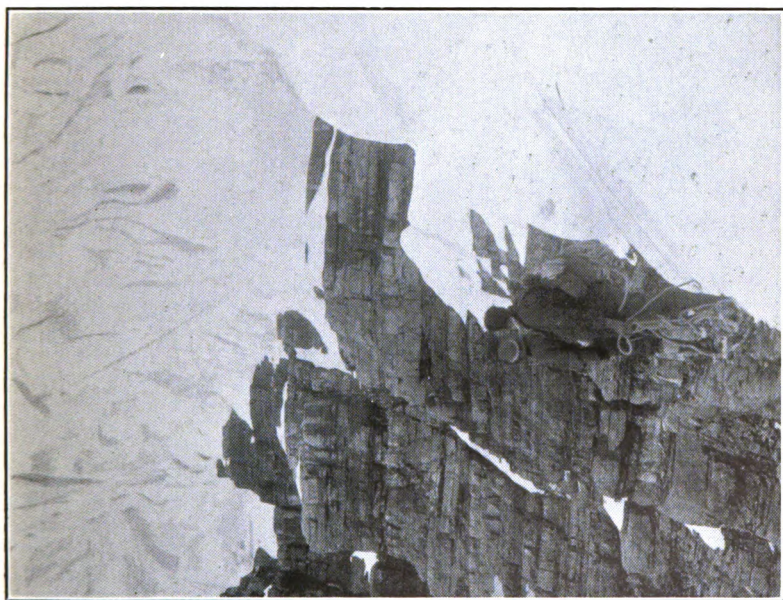
It took us five hours next day to mount the steep trail through the woods to the high climbing camp that had been placed, for the Alpine Club of Canada, near the last trees on the margin of a gully above Kinney Lake. Conrad had the heaviest pack of all—only slightly smaller than himself—and was forced to 'build a fence' of willow-twigs to accommodate a pail and several loaves of bread on top.

Above the cliffs, a little to the north of our tents, we could see rolling clouds that hid the crest of Robson, but which lifted enough to show us the green séracs of a lower ice-fall, from which two crashing avalanches came down just before we started supper.

Sitting on the limb of an ancient, storm-gnarled tree, one felt that it would be quite possible to throw a stone into the grey waters of Kinney Lake, 3000 ft. below. The lake was now in shadow, but the sun breaking through the upper levels flooded Whitehorn with a luminous red-gold light. To the S.W. we could see across the bordering hills of Fraser River, almost to the head of Canoe and North Thompson Rivers, and beyond to the Caribos, whose winding central glaciers were steeped in lavender and heliotrope—last pale colours of evening.

During the night the clouds rolled back, and we started out at four o'clock on the finest of clear mornings. In two hours we had climbed over long slopes of shale and scree to the limits of vegetation, in the top of a small cirque near the lower ice-falls. These ice-falls, two in number and separated by a narrow partition of cliff, owe their formation to a reconsolidation of the avalanche ice that breaks off from the summit ice-cap. Walled in on one side by the south-eastern shoulder, it is forced, for the most part, into the couloirs bounding the head of Kinney Lake Valley.

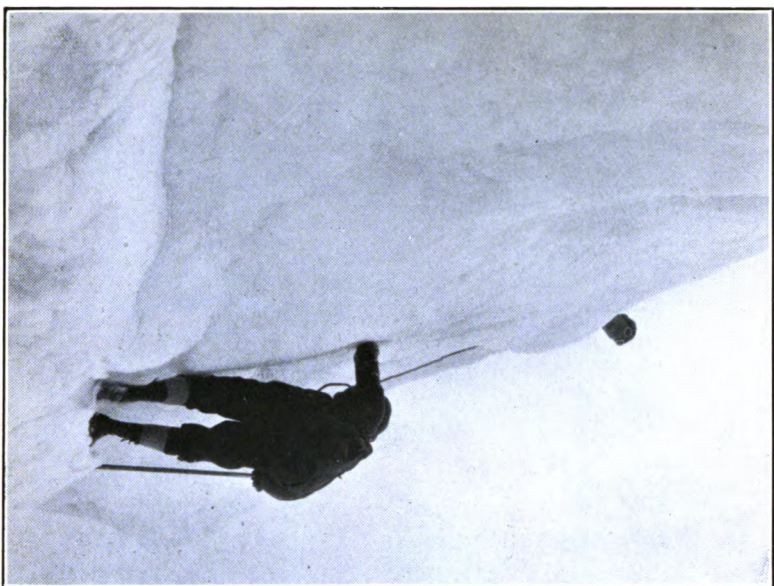
Early in the morning it was quite safe to cross below these falls; we were quickly through the short distance, floored with shattered blocks, without a sign of anything giving way above. Then up and up the crest of a long rocky ridge, where the sun met us, to a flat ledge with a trickle of water that met the requirements of a breakfasting place. We sat there, eating bread and jam, a little below the first snow, and looked across to the shoulder. Above the ice-falls, under which we had just come, is a level of hardened snow swept by tracks of immense avalanches that had come from the great furrowed ice-cap that gleamed above us. The cap itself, from the western crest of the mountain to the south-eastern shoulder, is guarded by a veritable barrier of ice, some hundred feet high.



ABOUT TO CROSS THE GREAT COULOIR.
(Miss Bush with Streich.)



ON THE SHOULDER
Summit in view.



THE ICE-FALL.
(Miss Bush with Streich.)



WAY TO BREAKFAST PLACE.

This is the real danger of the south-western route : the rock ridge runs into the ice-cap ; one must work through this upper fall after traversing under a portion of it toward the western arête. The possibility of falling ice cannot be ignored.¹⁰

We were soon on the snow : Conrad, Ostheimer and I on one rope, striking up a sharp snow-crest that connects the rock ridge with the base of the ice-cap. We stopped to reconnoitre, while the second rope came up. In the ice-cliff there was a choice between a frozen chimney, nearby, blue and steep, which Conrad pronounced hazardous for the leading man, and a lateral traverse on horizontal, snow-powdered ledges, below the séracs to a break that seemed to afford access to higher slopes.

The traverse seemed the only course, and not a very good one. It involved an exposed crossing through the head of the great S.W. couloir, so conspicuous from the Grand Forks Valley. It was past the noon hour, the ice was in the full light of a hot sun for the first time in a fortnight ; and the summit of the mountain, although less than 2000 ft. above us, indicated plainly enough that to go on meant a night-bivouac. Not much more than two weeks before we had had two long nights of shivering in the caves of Mt. Hooker, and Ostheimer and I were not keen for an immediate continuance of that mode of existence.

Just then there was an ominous cracking, and Conrad shouted 'It's coming down,' and we all ducked under the nearest ledge. Fortunately only a few small cakes fell, and these not near us. Still it does not take a very big piece to put one *hors de combat*, and the business might not yet be done with. I made up my mind that the amateurs on our rope must turn back. Everyone has his own standard about what is to be done under such circumstances—mine is that there is plenty of good mountaineering to be done without knowingly placing oneself in an exposed position, requiring time for its passage, where ice or snow *may* come down. I sometimes subject this to a very liberal interpretation ; but on this day, toward the end of a long and successful season, it did not seem

¹⁰ Mr. V. A. Fynn supports this view, in stating (*A.J.* vol. xxxvi., No. 229, p. 321), ' . . . This ridge runs *into* the ice-cap of the mountain, as above stated, and in its highest portion is absolutely dominated by part of that ice-cap. All the parties passed under and over hanging ice-walls, or séracs, and were exposed to ice-falls for at least half an hour. It seems to me that this route is unnecessarily risky.'

worth while taking a chance on the behaviour of those ice-pinnacles.

The others felt differently about it, and inclined to go on. Conrad said: 'Gentlemen, it is risky. I am willing to go on if you wish.' So we decided that Conrad should rope with them and continue, while Ostheimer and I on the rope remaining should descend the ridge below and continue to the high camp. We parted, wishing each other the best of luck.

The four were immediately lost to sight behind a hummock of snow, while we descended in the steps cut on the way up. We were near the level of Whitehorn, with a widespread view across the Fraser Valley. It seemed to us worth while to ascend the little rock-point which forms the very apex of a buttress just S. of the main couloir. From near Kinney Lake it seems to rise as a sharp spire; but from below one does not see the snow that extends behind and toward the ice-cap. We built a little cairn and sat down to watch the climbers' progress. All at once there was a grinding crash in the direction of the couloir and some large blocks of ice came tumbling down. The men were still out of sight, but we could tell that the shower of pieces had been close to them. They were untouched, however, and a little later we saw them gain the ice-cap through a break in the séracs. Still later, as we descended, we saw them high up on the snow, half hidden at times by veils of mist.

We had come down nearly to the lower ice-falls: we stopped to finish off some sardines and coffee, seating ourselves on a broad ledge that seemed almost to overhang Kinney Lake. Then something—there was not a sound—made us turn our gaze to the lower ice. The entire front of pinnacles began to move, the green wall tottered slowly and sank, splintering laterally and sweeping the path through which we had come in the early morning. Then came the crashes. We sat as if petrified, until the last echoes died away. Conrad heard the noise on top of Mt. Robson, telling me later that they spent the night near where we had been, and thought the avalanche had caught us.

But no such misfortune overtook us, and although we made a roundabout descent, we were in our blankets before dark. Conrad and his successful party came in at four o'clock next morning; their night on the rocks had not been restful.

It is not fair to the mountain to say that conditions are always such as have been described. Later on, within a couple of weeks, in 1924, a total of twenty people had reached the

summit without mishap. Perhaps after a few days of sunlight the ice conditions were more stable. But there is always a potential menace in those westerly-exposed séracs. If enough parties try the route, there will at some time be an accident from avalanche. One will do well to remember what Conrad wrote after the first ascent in 1913: 'I do not know whether my *Herren* contemplated with a keen alpine eye the dangers to which we were exposed. . . .'

So, although I have not climbed Robson—yet—I would not be one to dwell on defeat; there is happiness in having tried with such good comrades. Perhaps it were best that I should never stand on that height; I might think the less of it. For, to me at least, it would be nothing short of sacrilege to stand on the very summit of the majestic mountain that, when little more than a boy, I went hunting for—and found—in the pale splendour of northern moonlight.

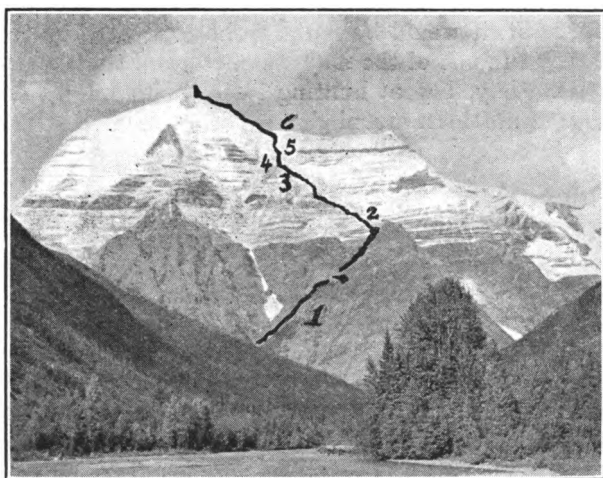
(To be continued.)

A NOTE ON MT. ROBSON.

LAST summer the Canadian Northern Railway sent out for the climbing season, Alfred Streich, an experienced and competent guide of Zwirgi, near Meiringen, son of Kaspar Streich, who perished with Donkin, Fox, and Johann Fischer in the Caucasus in 1888, and Hans Kohler, son of Melchior Kohler of Meiringen. Melchior is in the very front rank as a guide and possesses a very melodious voice. So many opinions have been expressed as to the technical difficulties of Robson that I was curious to hear what Alfred, who has had a wide experience of the higher Swiss expeditions, would have to say. He made the ascent of Robson twice, once in the company of my old friend Conrad Kain, a redoubtable little man who was the first to conquer the mountain, and the second time with his neighbour, Kohler. He writes as follows (translated):

'I am glad to tell you how I found Mt. Robson compare with a Swiss mountain. . . . When I first got to Jasper Park I heard so much of the mountains there that I said to myself, can they really be so difficult and almost impossible? . . . We made a few expeditions in Jasper Park which were very nice, and then, mid-July, we moved up to the Valley of a Thousand Falls to make expeditions with the members of the Canadian

Alpine Club, our colleague being the Austrian guide, Conrad Kain, who had made the first ascent of Mt. Robson¹ by the E. face and finally by the S. face. . . . We fixed up a tent at timber limit, 5 hours above Lake Kinney, at about 6,500 ft. . . . On July 20, Messrs. Thorington and Ostheimer, with Kain, Kohler, and myself, made a new ascent of Mt. Resplendent by the N. arête. After that I ascended Mt. Robson with Miss Helen J. Bush of New York on the same day as Conrad Kain with another party. . . . On August 5 we again set out for Mt. Robson—we were a party of ten. I took Kohler with me so



W. AND S.W. FACES OF MT. ROBSON
(Route marked by Streich).

- | | |
|----------------------|-------------------------|
| 1 = Tent. | 4 = Ice fall. |
| 2 = Breakfast place. | 5 = Wall above couloir. |
| 3 = Great couloir. | 6 = Shoulder. |

that he should make the ascent. The route we took reminded me closely of the Jungfrau by the Rottal. It is long because our tent was pitched very low down. The way from Kinney Lake to the tent is terribly steep—through bush. From the camp you have 2 hours over slabby rocks to the arête, then 2 hours nice climbing to the breakfast place, then over a snow shoulder to the great couloir, very steep and exposed for about $\frac{1}{2}$ to 1 hour. Here one is never safe from falling ice and is all

¹ *A.J.* xxvii. 35 seq.

the time under the icefall.² You have to cross the couloir and then climb a steep rock wall and eventually reach, in about

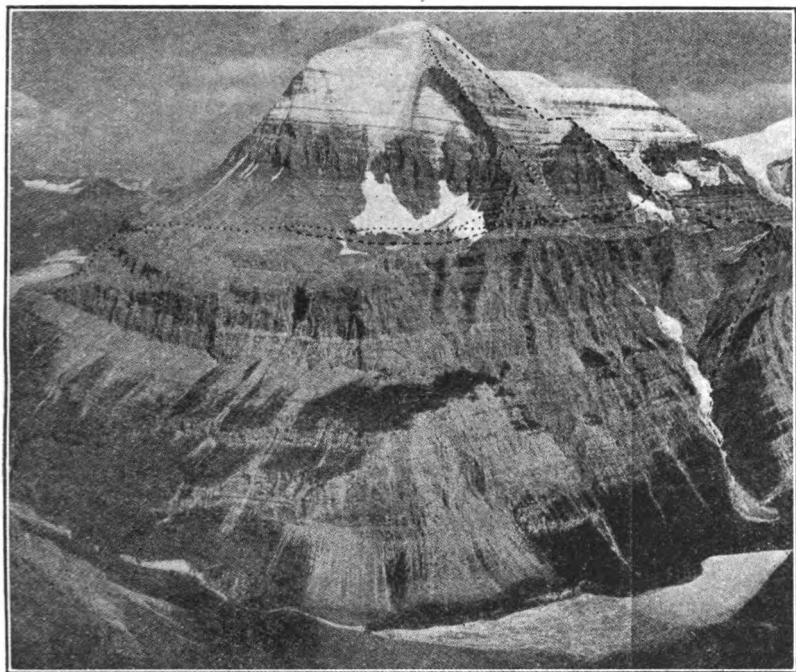


Photo. A. O. Wheeler

W. AND S.W. FACES OF MT. ROBSON ²
(from Little Grizzly Peak).

1½ hours, the shoulder, from which point an ice face very like the final bit of the Wetterhorn, but much longer, leads in about

² Mr. Fynn (*A.J.* xxxv. 420) points out that this danger can most probably be avoided by taking the arête more to the left, i.e. Schaufelberger's arête marked

³ The dotted line indicates the attempt on August 3, 1913, by B. S. Darling and H. H. Prouty with W. Schaufelberger, *C.A.J.* vi. 29 *seq.* The dash line indicates the attempt on August 11, 1913, by A. H. MacCarthy and B. S. Darling with Conrad Kain and Schaufelberger, *C.A.J.* vi. 37 *seq.* W. W. Foster and A. H. MacCarthy with Conrad Kain had made, on July 31, 1913, the first complete ascent of Mt. Robson, but, as stated above, by a partly independent route, *C.A.J.* vi. 11 *seq.*

The two marked arête-routes were previously indicated to Mr. Wheeler by myself, as stated in his letter, *A.J.* xxvii. 330, as soon

2 hours to the top—a sharp snow ridge on which one sits astride. On the shoulder Kain's original route joins ours, and he told me that he had on that occasion to cut steps for 5 hours in hard ice up the final face. Last year I never took more than 2 hours for it and only had to cut steps in hard snow, which is not work. If the icefall, which is in fact the only danger, is the same this summer, I think the route I followed is the best. But if it gets impossible one would have, after crossing the great couloir, to bear more to the left. On this route the rock ridge mounts much higher, but at its end, where it joins the ice-cap, will certainly be the most difficult bit. . . .

'From the photographs you can judge for yourself whether you can climb the mountain without using your hands, as some said. I say plainly that Mt. Robson is not difficult, but at the same time must not be undervalued. I am convinced that if it were in Zermatt or the Oberland, *i.e.* in the Alps, it would long ago have been ascended from every side. This year I expect to get to know the mountain better—one of my ascents last year was after heavy snow.'

These remarks from so competent a mountaineer bear out the views originally expressed by Conrad Kain, and lately by Mr. Fynn, and now by Dr. Monroe Thorington, as to the dangers from falling ice on the present route, and the comparisons put forward will do much to give us a grasp of the conditions. It will probably be found preferable to follow Schaufelberger's already practically proved arête from its foot above the steep slopes rising out of the valley and not

as I saw the first photograph of this side taken by himself and reproduced above. This letter gives an able résumé of the two determined attempts, only defeated by bad weather, to carry them out. The picture is particularly interesting as illustrating Mr. Mumm's very acute remarks that Mt. Robson 'contrives to come down to the ground-floor so to speak all the way round, except at the neck, etc.' *A.J.* xxx. 359. From the Lake to the summit there is a vertical height of nearly 10,000 ft.

Reference should also be made to :

Mr. Wheeler's exhaustive and magnificently illustrated paper, 'The Mountains of the Yellowhead Pass,' *A.J.* xxvi., with a fine map.

Mr. Amery's 'An attempt on Mt. Robson,' *A.J.* xxv.

Conrad Kain's, 'The Ascent of Mt. Robson,' *A.J.* xxvii.

The articles on Mt. Robson in *C.A.J.* vi., ably summarised by Mr. Mumm in his exhaustive review, *A.J.* xxx. 358 *seq.*

Mr. Fynn's remarks, *A.J.* xxxv. 420.

simply, as Alfred suggests, follow the present right-hand arête still involving the passage of the great couloir exposed to falling ice, and only then traverse away to the left.

The C.N.R. have engaged Streich to go out again for the next season, and he has accordingly had to cancel his Alpine engagements. He has seen a copy of this Note, and it is probable that at the very earliest opportunity his sound mountaineering experience will determine him to try the Schaufelberger arête. Whoso reads Mr. Darling's able and clear account in *C.A.J.* vi. 29 *seq.* will not expect an easy job. It is certainly no place for beginners, or for anyone, except in fairly good weather.

The only map at present available is Mr. Wheeler's, issued with his paper, *A.J.* xxvi.

Mr. F. H. Peters, the director of the Topographical Survey of Canada, has been good enough to send me an outline copy of the unpublished Sheet 32 of the Interprovincial Boundary Survey, which covers the mountain on a scale of 1 inch = 1 mile. The Sheet will be published later.

J. P. FARRAR.

CLIMBS IN THE CARIBOO MOUNTAINS AND THE NORTHERN
GOLD RANGE, INTERIOR RANGES OF BRITISH COLUMBIA.

By ALLEN CARPE.

THE inland portion of the Canadian Cordillera—as distinguished from the Coast ranges—is made up of two roughly parallel uplifts: the Rocky mountains proper, and the Interior ranges of British Columbia. These are separated by the great structural depression of the Rocky Mountain trench. The territory W. of this trench is divided into separate ranges by a series of lateral valleys cutting in diagonally from the S.W., such as the Purcell trench (Beaver and Duncan rivers), separating the Purcell and Selkirk ranges; the southward flowing Columbia, dividing the latter from the Gold range; and the valley of the North Thompson river, separating in turn the Gold and Cariboo ranges. These lateral valleys intersect the Rocky Mountain trench at a sharp angle, so that the component ranges resemble a series of inverted V's arranged in echelon,

the tip of each area touching the Rocky Mountain trench, while the open lower end fans out and merges somewhat indefinitely into the hill country of the Interior plateau.

The Cariboo mountains are separated from the Rockies by the Fraser river and are bounded towards the S.E. by the McLennan river, Albreda pass and the valley of the Albreda and North Thompson rivers. Their northern limit is perhaps less well defined. Geographically, they should no doubt extend into the bend of the Fraser at $54^{\circ} 17'$ N. latitude, but there is evidence that the alpine portion of the range at least breaks down in the vicinity of the Goat river, whence easy passages exist to Isaac lake and the Cariboo mining country around Quesnelle and Barkerville, on the border toward the Interior plateau. Probably the Bear river, and a line thence around the Quesnelle basin to the Clearwater lakes, will enclose everything of interest to the mountaineer. The distance from Albreda pass to the Goat river is about 75 miles, and the width of the range from the Fraser valley to Cariboo little more than forty.

Early Explorations.

With the inception of surveys for the Canadian Pacific Railway in 1871, the Cariboo mountains assumed considerable importance, constituting, as they did, a formidable barrier at the western outlet of the Yellowhead pass, which was early recognized as the most eligible location for the line across the Rocky mountains. On July 20, 1871, a large party under Mr. James A. Mahood left Victoria for the Cariboo country, charged with surveys between Quesnelle and Tete Jaune Cache, at the western foot of the Yellowhead pass. It was not originally intended that this party should cross the Cariboo range, but information obtained at Quesnelle, together with the lateness of the season, induced them to attempt a direct route *via* Richfield to the Cache. Working N. and E. to Isaac lake, at the headwaters of the Swamp river, Mahood descended this stream for a short distance and then turned up its E. fork into the mountains, crossing 'Dominion pass'¹ to the Castle (or

¹ *Canadian Pacific Railway: Progress Report on Exploratory Survey, 1872*, p. 47: 'Pushing along, despite the innumerable difficulties which beset the way, the party reached the hoped-for pass, which, high and glacier-capped, towered up in front of them, as if to crush out hope and defy further progress. For the animals, a passage over it had to be cut with picks and axes . . . In going

Cottonwood) river late in September and wintering his party at the confluence of this stream with the Fraser, near the present town-site of Eddy. Mahood's expedition is of interest as representing probably the first recorded crossing of a glacier pass in the Canadian mountains; ² but it would seem that the route was hardly feasible even for pack animals, and so far as the writer is aware it has never been followed in its entirety since.

Attempts to penetrate the Cariboo range were continued for several seasons after Mahood's exploration, but they failed to disclose any passage whatever across the great barrier of mountains between the McLennan river and Dominion pass. In the fall of 1871 a second party, under Mr. Roderick McLennan,³ after suffering many hardships in the North Thompson valley, reached Cranberry lake (on the present McLennan river) and took up winter quarters there. During the ensuing winter both this party and that of Mahood searched in various directions from their respective camps 'particularly with a view of finding a valley or pass through into the Cariboo country,' ⁴ but without success. In 1872 'the attempt to find a direct route through the mountains from the Yellowhead pass *via* Cariboo to the coast was continued. It resulted in failure; no opening having been discovered in the lofty mountains which bar the way at Tete Jaune Cache and which, at that point, turn the Fraser river more than a hundred miles out of a direct course to its

from the forks of Swamp river over the pass into the headwaters of Castle river, a rise and fall of two thousand three hundred feet has to be overcome. . . . The glacier . . . is half a mile in extent and about two hundred feet thick.' In testimony given before the Royal Commission on the Canadian Pacific Railway (*Report*, 1882, *Evidence*) Mahood is said to have estimated that the glacier was '2,000 feet in thickness,' and Marcus Smith states that the pass was 'something like 9,000 feet high . . .' On an early map by Lieut. H. S. Palmer, entitled 'Reconnaissance Sketch of Part of Cariboo' (*R.G.S.* 1864), this area is inscribed: 'Region crowded with immense rugged Mountains.'

² A possible exception may be the trail constructed by Walter Moberly from Shuswap lake across the Gold range in 1866 (so-called Smith and Ladner trail). There appears to be a summit glacier on this route, but none of the reports available to the writer indicate that it was traversed.

³ Under the immediate direction of Mr. F. W. Green. Both Green and Mahood reported to McLennan.

⁴ *Royal Commission Report*, 1882, *Evidence*, p. 1521.

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outlet.'⁵ The effort was renewed in 1873 by Mr. Walter Moberly: 'I proceeded to explore the country at the headwaters of the Canoe river, and very soon found there was no pass in that direction. I then went to the forks of the Albreda and North Thompson rivers, and up the valley of the latter. . . . I pursued my way until, at a very high elevation, I was surrounded by snow-capped peaks and glaciers that presented an impenetrable wall of rock, snow and ice.'⁶ Early the next summer (1874) Mr. E. W. Jarvis ascended the Clearwater river and crossed from it to the upper valley of the North Thompson, joining Moberly's route of the preceding fall. 'The information obtained from this exploration *set positively at rest the question of a direct practicable route across the Cariboo range from Yellowhead pass to the coast.* The summit of the divide at the lowest place that could be found on this route was an immense glacier 7000 feet above sea-level.'⁷ Other explorations were made of the regions of the Clearwater, Horsefly and Blue rivers, but these are south of the area considered.

When it is recalled that the Clearwater is itself a tributary of the North Thompson, so that the divide referred to is merely a spur of the main range, it will be seen that the railway surveyors never succeeded in piercing the real nucleus of the Cariboo mountains between Albreda pass and the Castle river. Whatever topographical information may have been obtained was not preserved, and to-day the region is essentially virgin ground. The references quoted above, largely of a negative

⁵ *Canadian Pacific Railway Report*, 1877, p. 15. It is, however, not clear what was done during this season. The reference may be to the explorations of the previous winter by Mr. McLennan's parties. The *Royal Commission Report* shows no other party in the region during this year.

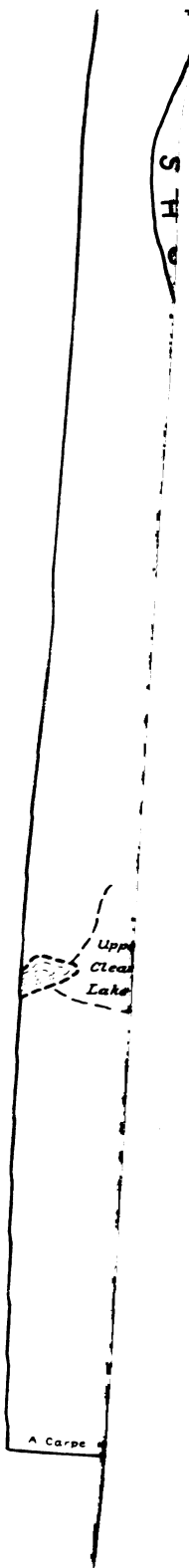
⁶ *Early History of the C.P.R. Road*, by Walter Moberly (pamphlet). In testimony before the Royal Commission (*Report*, 1882, *Evidence*, p. 424) Moberly states that this occurred 'near the end of October,' and that he was 'only a few days in there.'

⁷ *Canadian Pacific Railway Report*, 1877, p. 21, also p. 118.

SKETCH MAP OF A PORTION OF THE INTERIOR RANGES, ADJACENT TO TETE JAUNE CACHE.

Showing Principal Summits of the Cariboo Mountains, Albreda Pk. and Sources of the North Thompson, McLennan, Canoe and Shuswap rivers.

NOTE:—The position of Albreda Pk. is referred to that of Clemina station as shown on maps of the British Columbia Department of Lands. There is a difference of about 3 miles between there and Sectional Map 262 (Yellowhead), issued by the Dominion Government.



TO THE
AMERICAN

nature, represent practically all that has been known concerning this important section of the Canadian mountains.

In more recent years, the Cariboods were first visited for mountaineering purposes by the late Professor Holway and Dr. A. J. Gilmour in 1916.⁸ Having seen the range from the vicinity of Mt. Longstaff, in the Robson group, they selected the valley of Sand creek, a tributary to the Fraser above Tete Jaune,⁹ as the most promising approach, and succeeded in establishing a camp near the glacier at its head. Here some time was spent in exploring the country and seeking for passes into the adjacent valleys, but unsettled weather prevailed and none of the higher peaks were climbed.

Professor Holway's glowing accounts, together with the interesting mountaineering, and topographical problems involved, gave the Cariboods a strong appeal, and, following a visit to Jasper in 1923, I was at last able to arrange for a trip to them. In this I was joined by Professor R. T. Chamberlin, of the University of Chicago, but Dr. Gilmour, whom we had hoped to have with us, was forced to withdraw at the last moment.

In default of definite information regarding the other valleys, Sand creek was again chosen for the approach, and the morning of June 25, 1924, found us *en route* from Jasper to Tete Jaune station. The day was very clear and we could see Mt. Alberta, far up the Athabaska, from the train. At Tete Jaune we were met by 'Slim' Goodell and George Burns, our packers; A. L. Withers had come over with us from Jasper, and the party was completed by King, a fine collie dog belonging to Goodell. After lunch we loaded our belongings on four horses and set out for Sand creek. An old trail on the left (W.) side of the stream had been cut out in advance for a short distance. Four hours march took us above the first pitch of the fine canyon, which was as far as the horses could go, and we stopped for the night under a big overhanging rock close to the stream. The altitude was 3600 ft., 1200 ft. above the railway. The heat in the Fraser valley and during the ascent over great sandy dunes flanking the canyon had been intense, and we welcomed the cool of the evening and the sound of the rushing water.

⁸ 'The Cariboo Mountains,' by E. W. D. Holway, *Canadian Alpine Journal*, 1917, p. 30.

⁹ Sand creek and the McLennan river enter the Fraser together at the old site of Tete Jaune Cache. The present railway station of Tete Jaune is about a mile further west.

The next morning Goodell and Burns took the horses back to Tete Jaune,¹⁰ Chamberlin, Withers and myself getting off to a late start up the valley, after caching the remaining supplies out of the reach of the omnivorous porcupine. The going was rather thick in spots, but there was a recognizable foot-trail in the clearer places, and at times we could walk on the gravel bars, glittering with a fine micaceous sand. Mica is everywhere in these mountains,¹¹ and the stream water has a peculiar flocculent appearance from the swirling particles of it. The valley is narrow and trough-like, as in the Selkirks, the vegetation characteristic of the Interior ranges, though hardly so dense as I had expected. About four miles above the horse camp a glacier tongue comes down deep into the valley through a narrow cleft from the E. A mile beyond this another side valley, with a waterfall, discloses suddenly a fine striking peak with two black towers rising from shining snowfields. This we have named Mt. Challenger,¹² and later found its altitude to be about 10,900 ft. Sand creek at this point must be some 4000 ft.

Beyond this the valley curves sharply to the left and the main glacier, two miles further on, is hidden behind a wooded shoulder of 'Forks peak.'¹³ We made camp about noon of the second day in a patch of trees some 600 yds. from the ice, at an altitude of 4440 ft. The valley is quite open here, but continues to bear to the left, so that only the lower part of the glacier is visible. Above it, on the right, is a high, steep wall, culminating in three graceful peaks, the true height of which we did not realize until later. The first of these, Mt. Welcome, was so named by Holway and Gilmour, it being in view far down the valley. Adjoining it is a lower pyramid which for reasons evident below we have named Bivouac peak. Beyond this,

¹⁰ The horses were taken on from there to Swift Creek. Goodell and Burns then returned with a few additional supplies, and acted as a support party during our stay in Sand creek, relaying provisions from the horse camp to the head of the valley. King did his share in this, carrying a load of some twenty pounds in canvas side packs.

¹¹ Most of it is not of commercial quality. There is a small mine (not worked at present) on a shoulder above the mouth of the valley, on the east side, stated to be 5000 ft. above the track.

¹² The names used in this article have not yet been acted upon by the Geographic Board of Canada.

¹³ One of the first peaks seen on the way up the valley. We called it by this name from its location between the main stream and the tributary with the waterfall. The latter is, however, hardly a true 'fork,' as it comes from a pronounced hanging valley.



Photo by A. Carpe.

UPPER PART OF SAND CREEK VALLEY.

Forks Pk., Bivouac Pk. and Mt. Welcome. Glacier tongue entering at left.

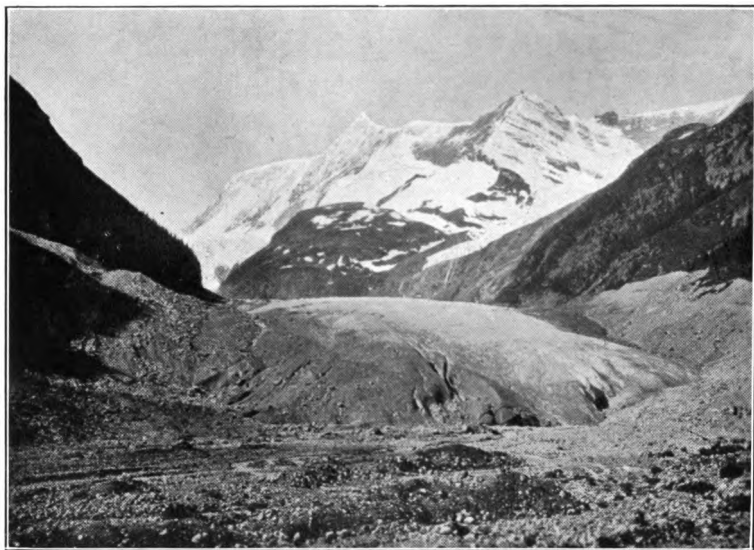


Photo by R. T. Chamberlin.

MT. TITAN AND BIVOUAC PK.
from head of Sand Creek.

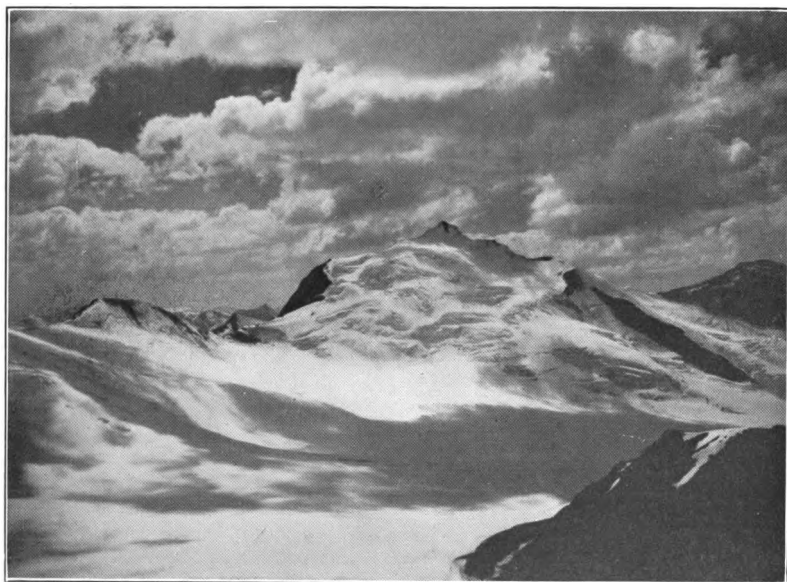


Photo by A. Carpe.

KIWA PK.
from Bivouac Pk.

some miles up the glacier, soars the slender summit which we have called Mt. Titan, much foreshortened and not at all betraying its great bulk from this angle. Between these the range is continuous and does not drop below 10,000 ft. at any point; a steep ridge leading up to Bivouac peak is the most promising access to its crest.

Chamberlin and I were off early the next morning (4.30) up the glacier, with the intention of climbing Mt. Challenger if possible and so obtaining a view of the surrounding country: photographs secured by the previous expedition had indicated a side glacier leading back in that direction. Naturally the trip was in the nature of a reconnaissance, as we could see nothing of the route from below. As we progressed, the glacier opened out to a splendid cirque or head-wall, glistening white in the morning sun. Behind us Mt. Robson, 30 miles distant, came into view. Presently crevasses began to open up across our path; thinking to avoid them, we took to the E. bank under 'Forks peak,' but soon became entangled in a mass of juniper scrub and cliffs and wasted a good deal of time before reaching the edge of the expected side glacier. This led back (toward the E.) to a rounded summit with a col on either side. We selected the one to the right as most likely to lead to our objective, but the choice proved wrong, and after labouring for some time in the soft steep snow of the upper glacier (a light crust giving way under each step) we were content to scramble up on the rather shapeless mass at its head, just over 10,000 ft., which we dubbed 'Gunboat Ridge.'

Not perhaps a very distinctive peak, it left little to be desired as a viewpoint, and in the radiant clearness of a perfect June day we had an inspiring introduction to our new range. Whitehorn, Longstaff, Bess, Chown, even peaks far up at the head of the Jackpine and towards Mt. Sir Alexander, stood forth as if suspended in crystal. Albreda peak and the Gold range seemed near. Round about us was a wilderness of shining peaks and swelling snowfields that stretched away to the W. and S. as far as the eye could see. Across the upper basin of Sand Creek névé Mt. Titan reared his mighty head, ice-capped above beetling precipices, clearly the monarch of the group. To the left there followed a maze of glaciers and serrated peaks at the head of the McLennan river,¹⁴ the highest

¹⁴ This branch of the McLennan river, properly its true source, is known locally as 'Mica creek.' This name is duplicated so frequently that it seems preferable not to perpetuate it here.

partly hidden by jutting nearer summits. We were not high enough yet to unravel fully the intricate topography of the range, and the impression was that of a sea of mountains, frosted and laden down with snow, impressive yet baffling in their newness and unexpected splendour.

Sweeping around through half the compass to the S. and E., a broad snowfield led to Mt. Challenger, our erstwhile objective, more than a mile distant and still high above us. A deep break cut us off in that direction, even had there been time for an attempt, but the way seemed clear for a later attack from the col N. of our peak. We descended by that route to the main glacier and down it to camp, finding the crevasses not very bad, and certainly preferable to our route of the morning.

The ascent of 'Gunboat Ridge' left little doubt that Mt. Titan was the highest peak of the group. At the same time it dispelled any hope of an easier way up it from the side we had seen: the entire flank facing the Sand Creek glacier was an immense glacier-scarred precipice 5000 ft. high. The only possible access from Sand creek seemed to be by the ridge leading up to Bivouac peak, whence the long crest of the range could be followed to Mt. Titan. This ridge comes down towards the main glacier at a point perhaps two miles above its snout, enclosing between it and Mt. Welcome a steep-walled little cirque whence a hanging glacier discharges in a waterfall.

By 3.30 A.M. on June 30 we were under way, following the glacier to the base of our peak, then up the moraine of the side glacier to steep, heathery slopes and a small snowfield. We struck the ridge at about 8000 ft. and followed it straight to the top. The lower part is a soft, rotten mica schist, full of garnets; higher up the rock is harder and quite steep, interspersed with stretches of snow. The climb is remarkably similar to that of Paragon peak, in the Tonquin valley. The altitude surprised us. From below it had looked hardly more than 9000 ft., but the barometers passed that figure when we were scarcely half-way up the ridge, and it was noon before we finally stepped out on the summit at 10,200 ft., 5800 ft. above camp.

We looked down upon the whole course of Sand creek to the Fraser, with the Rockies beyond. The Challenger group, with its sub-ranges overlooking the McLennan river, made a pretty picture of interlocking ridges and snowfields. It was interesting to note that one of the two apparent summits of Mt. Challenger—in fact, the more prominent one from below—

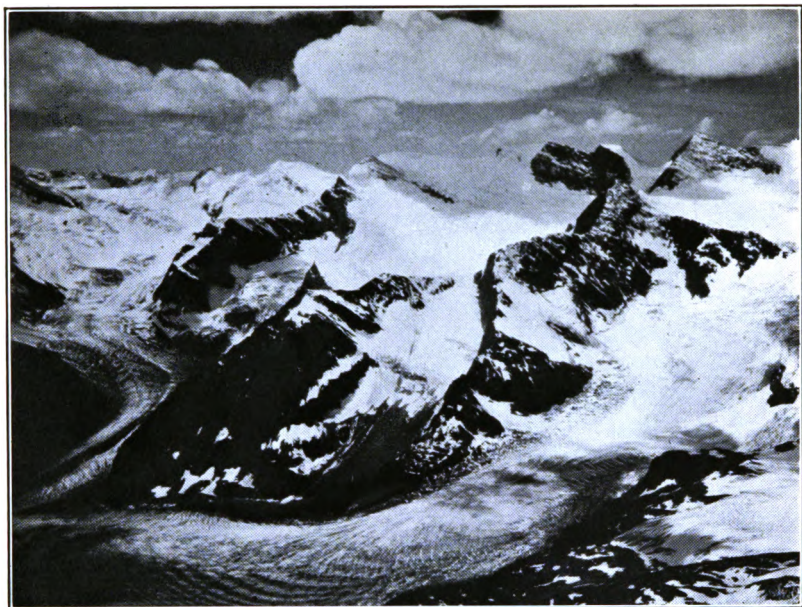


THE CHALLENGER GROUP FROM MT. TITAN.
Mt. Challenger at left.



Photos by A. Carpe.

MT. DAVID THOMPSON FROM MT. TITAN,
showing glacier passes to North Thompson and Shuswap rivers.



SOURCE OF THE MCLENNAN RIVER
from Point 10,075.



Photos by A. Carpe.

VIEW SOUTH-WEST FROM GUNBOAT RIDGE.
Summit of Mt. David Thompson behind Points 10,250 and 10,225.

was merely a shoulder of no independent importance. To the right the gathering basin and broad upper snowfields of the Sand Creek glacier were spread out map-like at our feet.

In the other direction a scene of truly arctic grandeur burst upon us with dramatic suddenness as we breasted the summit. The whole N. face of Mt. Titan towered before us, a solid wall of ice, blindingly white against an indigo sky. At its foot a great undulating névé drained to Kiwa creek.¹⁵ Across this, rising with a gentle dignity from the white expanse, stood the most beautiful snow-peak I have ever seen—a Monte Rosa-like summit of terraced ice, its upper spire edged with the thinnest imaginable line of rock. A delicate symmetry of outline gave it a strangely soaring and intangible aspect. We named it Kiwa peak.

Our own peak was little more than a buttress of Mt. Titan. The connecting ridge dipped down a few hundred ft., then swept upward with increasing steepness 2000 ft. to the apparent summit, the highest point being a little beyond. It was a snow arête throughout, integral with the N. face and Kiwa névé on the one hand, on the other overlooking a precipitous rock wall dropping away to the Sand Creek glacier. The distance in air-line was over a mile. The snow was deep and soft under the mid-day sun, and by the time we had lunched and obtained the necessary pictures it was 1 p.m. It would be a long pull, not without avalanche danger and with little prospect of getting back before dark, yet we were loath to give in without an attempt. We started down the ridge towards Mt. Titan, but when we found that the rocks of our own peak would force a descent practically to the level of the Kiwa névé it seemed useless to continue. We spent some time photographing and drinking in the view, started back at 3.45, and were in camp by 8.20.

We now had a fair knowledge of the country on both sides of Sand creek, and it behooved us to make a more serious attack upon the high peaks of the range. It is perhaps too much to say that we had been repulsed in our first attempts: pioneering would lose much of its appeal were the defences of a new region to fall without some preliminary skirmishes. Nor could we wish for greater rewards than we had had on

¹⁵ A tributary to the Fraser about six miles below Sand creek. *Canadian Pacific Railway Report*, 1877, p. 262, mentions: 'Kiwa (Crooked River), 100 feet wide, three to six feet deep . . .' Also known locally as the 'Little Shuswap.'

'Gunboat Ridge' and Bivouac peak. Yet we had each time turned back from a higher summit largely because of the distance and lack of time, and it was evident that we had underestimated the scale of the mountains and the elevations to be overcome. We accordingly agreed to make a high camp part way up the glacier, and have another try at Mt. Challenger.

Packing up our sleeping-bags and a few provisions, we set forth at 8.45 the next afternoon. Withers, who had been a warden at Maligne Lake in Jasper Park, and was keenly interested in the mountains, came with us and proved himself most useful on this and subsequent climbs. We went perhaps two miles up the ice, then followed a goat-trail along its E. margin, and at 7.30 P.M. reached a grassy shoulder in the angle between the main glacier and its tributary coming down from 'Gunboat Ridge,' directly opposite Mt. Titan, at an altitude of 6900 ft. It was an ideal location, overlooking the icefall of Sand Creek glacier, with a patch of juniper scrub for shelter, and small dead wood for fuel. Water was at hand and the only drawback was the mosquitoes, which, for some reason, were worse than in the valley. The night was warm.

We were under way at 2.50 A.M., reaching the col N. of 'Gunboat Ridge,' altitude about 9200 ft., in just two hours. Here Mt. Challenger came into view. Roping up, we headed towards it across snow-covered glacier slopes, circling the base of a small peak en route. A steepish traverse under a curiously bulging schrund put us on the ridge between this and Mt. Challenger, along which we walked, cutting a few steps, to the base of our peak. The altitude was only 9600 ft. The mountain was composed of a mixture of quartzite and coarse mica schist, the latter in many places almost a pure foliated mica. The material is characteristic of the region, especially of the corner between Sand creek and the McLennan river. At a little distance it looks almost black, but close by the light is reflected from countless facets that flash and sparkle like snow crystals. Although smooth and a little slippery to the touch, the boot-nails bite in and seem to hold well. The climbing was easy, but the ridge was longer than we had expected, and we were gratified to find the barometer above 11,000 ft. when we reached the summit. The corrected altitude worked out later as 10,900 ft. It was 8.45 A.M.

The thermometer registered 49°, but a bitter wind made it a task to complete the usual summit panorama before retreating to a ledge just below for shelter. The air was filled with flying particles of mica dust. It was another brilliantly clear

day, save for a thin wisp of bluish smoke that rose from the Fraser valley near Mt. Robson, heralding the approach of that perennial curse of the Canadian mountains. The entire chain of the Rockies was in view, from Sheep Creek pass to the Big Bend. We could trace the Gold range to beyond Blue River. Mt. Geikie was very distinct, but we sought in vain to make out the Columbia group or Mt. Clemenceau. Far to the S. of us were rounded snowy domes of the Clearwater mountains.

We were definitely higher than anything else in the eastern portion of the range. Our immediate surroundings, a rather distinct area bounded by Sand creek and the bend of the McLennan river, can perhaps best be described by likening 'Gunboat Ridge,' a mile S.W. of us, to the hub of a wheel from which ridges radiate spoke-like in four directions, each pair enclosing a glacier. The first connects to the N. with 'Forks peak.' The next makes out toward Mt. Challenger. Between the two lies the glacier over which we had come, draining directly to Sand creek by the waterfall two miles below camp. We were on the divide between this and a rather larger glacier to the S. and E. which, although our ridge was nearly parallel to Sand creek, made a sharp turn around the N. base of Mt. Challenger, and reached Sand creek by the slender tongue entering a mile further down. This glacier occupies a broad, flat basin heading back against 'Gunboat Ridge,' bounded on the S.E. by a range of beautifully Alpine peaks along the McLennan river, three reaching 10,700 ft. in altitude. These were particularly impressive in the morning sunlight from the base of our mountain, and for sheer beauty of architecture are hardly surpassed in the range.

The fourth ridge is directed towards the head of the McLennan river, carrying the two jagged summits that had obstructed our view when we were on 'Gunboat Ridge' and forming the divide between Sand creek and the McLennan river. Crossing at the head of the Sand Creek *névé*, this ridge connects with the S.E. base of Mt. Titan. We were high enough to see the white pyramid of Kiwa peak beyond.

At the head of the McLennan river was a magnificent peak remembered from Holway's views. From its flanks, and from a broad white col between it and Mt. Titan, glaciers streamed down. The reverse slope of this col, as we later discovered, forms the true source of the North Thompson river, and we have therefore proposed to name the peak marking this important site 'Mt. David Thompson.' It is a mountain worthy of that great name.

We could look down on the gravel flats of Sand creek, where the waterfall enters, and a stoneman was built so that it would be visible from below. On our way out ten days later we picked it up easily with the glasses. On the way down, Chamberlin and Withers stopped to climb the small peak referred to above, between 'Gunboat Ridge' and Mt. Challenger; it is perhaps 10,250 ft. high, with an attractively pointed summit, and an interesting snow arête. The writer, more lazily inclined, dropped down meanwhile to the col and photographed. Then we plunged on through the almost intolerable heat of the lower snowfields to the bivouac place and were back in camp by 5.45 P.M.

A day of rest was now in order, on which we discussed plans for Mt. Titan. It was evident that another high camp must be established. There were heather slopes at perhaps 6000 ft. along our route of June 30, but we were not sure of finding a level place. Even if we did, there would be a long climb ahead of us before we could reach the summit snows, which we wanted to attack as early in the day as possible. In the end we decided to take the bull by the horns and sleep out on top of Bivouac peak, where nothing short of a complete break in the weather would rob us of victory.

On July 4 we retraced our route up Bivouac peak at a leisurely pace, reaching the top at 4.15 P.M., after a climb of nearly nine hours. On the very summit the rock had weathered to a sloping platform of soft scree, where we spread our bags. A wall of stones was built as a wind-break and to keep us from sliding down towards the Kiwa névé during the night. In the absence of water, snow was melted in the sun for soup, and while this was boiling over Meta units among the rocks a second hatful was made ready for the morning. As daylight faded we crawled into our bags. A thin crescent moon hung low over Kiwa peak.

There was a stiff breeze, and we had to secure our belongings with stones to prevent them from being blown away. The wind continued during the night, and seemed unnaturally warm. Tepid blasts roused us from time to time. It was an eerie sensation to peer out on the ghostly world around us, thick cloud-banks blotting out the stars along the horizon. Evidently the weather was turning. On the whole, however, we passed a comfortable night, rose early, and resumed the climb at three the next morning.

The ridge between Bivouac peak and Mt. Titan had changed greatly since our last visit. Large masses of wet snow had slid



MT. TITAN
from Point 10,075.



Photos by A. Carpe.

MT. DAVID THOMPSON
from Point 10,075. Pass to North Thompson at right.



VIEW NORTH-EAST FROM POINT 10,075.
Mt. Challenger at left; Mts. Robson and Resplendent in background.



Photos by A. Carpe.

VIEW EAST FROM POINT 10,075.
Points 10,700-750 and 10,500.

off bodily to the Kiwa névé, exposing ugly patches of black ice underneath. The lower part was not steep and might have been climbed with a little step-cutting, but higher up the conditions were not promising. We therefore abandoned this route, dropped down instead a thousand feet to the Kiwa névé and crossed at the base of the N. face towards the westerly ridge of our peak. Here a smooth trough or corridor led up toward the sky-line, beyond a crater-like hot-plate. Above this the ice-face is dissected by a series of long crevasses running diagonally down toward the W., with relatively clear stretches between. The climb was simply a matter of crossing each crevasse at a suitable place, which was not hard to do so long as the snow was firm, and working up the intervening slope as far as possible before crossing the next one. The route was thus somewhat of a zigzag affair. The snow was slightly crusted low down, generally in fine condition, but with a few deep drifts. Higher up it was thin on the ice. It held well and few steps were required, but it seems possible that the greater part of this face may be bare ice later in the season.

Once on the mountain, we pushed upwards at a good pace. At 11,000 ft. we out-topped Mt. Welcome. Presently Kiwa peak followed suit and still the summit was not in sight. The sky was overcast and there was a keen wind, but the bulk of the mountain sheltered us. A few hundred feet below the top we worked out on to the rocks of the W. ridge, a small outcrop and the only one on this side of the mountain. The wind was upon us here with full force. After a little space the rocks gave way to the ice-cliff of the summit cap, steep, but with good snow. Once over this, the slope flattened off quickly and the summit was ours. It was 7 A.M.

The top is a plateau-like mass of solid ice, so that one cannot say to within perhaps a hundred feet which is the highest point. Crevasses cut across it. As we had expected, we were on the higher of the two summits, some hundreds of yards back of the point seen from Sand creek. It was a dramatic moment when a hasty calculation placed our barometric height at just over 12,000 ft.; this was reduced later by the descending reading and corrections from instrumental levels to 11,750 ft., which we believe to be conservative. We were hundreds of feet above our nearest rivals, Kiwa peak and Mt. David Thompson, apparently of nearly equal height. For the first time we could see the western slopes of the latter; it is a bulkier peak than would appear from the E., bearing considerable ice. The North Thompson river curves around it like a great horseshoe, rising

from its northern slopes, flowing at first almost due W., then turning in an enormous arc through nearly 180° to its confluence with the Albreda river 40 miles to the S.E. From the bend of this arc we could make out low passes to the Clearwater and Quesnelle drainages. The source of the Canoe river is enclosed within this arc, between the Thompson and McLennan rivers, but we could not see it clearly. Immediately N. of the source of the North Thompson river, somewhat between us and Mt. David Thompson, was a long ridge-shaped mountain of considerable height (nearly 11,000 ft.), which separates the North Thompson from the Shuswap river.¹⁶ The latter, rising from a long, narrow glacier heading against Mt. Titan, circles to the right around Kiwa peak to the Fraser, its arc as seen from Mt. Titan being almost a mirror image of that of the North Thompson. There appear to be passes from it to the North Thompson, and it is understood that a trail exists between the two by way of the Thunder river (Clearwater drainage?). There were no mountains, as far as we could see, that approached in altitude those in our immediate neighbourhood, and it must be concluded that the highest portion of the Cariboo range forms an extraordinarily concentrated nucleus closely surrounding Mt. Titan. This area, however, is the hydrographic centre of a very considerable territory. Mt. Titan is probably the highest point in Interior British Columbia.¹⁷

The necessary photographic work was completed with difficulty, owing to the high wind. It was fortunate that we had reached the top early, for scarcely was the panorama finished before the clouds hovering just overhead closed down upon us. They barely grazed the summit, for when we descended a little towards the other peak we soon got clear of them. After

¹⁶ A sizable stream entering the Fraser some twenty miles below Kiwa creek. Known locally as the 'Big Shuswap.' *Canadian Pacific Railway Report*, 1877, p. 262, has: 'Shuswap River, a rapid stream, 4 feet deep, 150 feet wide at low water, 18 feet at floods (*sic*). . . .' On p. 131 of the same Report we find: 'The mountains on each side of the [Fraser] valley are very high, many of them capped with permanent snow; but after passing the River Shushwap, 83 miles from Yellowhead pass, they decrease in height and recede further from the river.' Some recent maps, to avoid a conflict with the Shuswap river in the Kamloops district, designate this stream as the 'Raushwap' (from Rivière au Shuswap) or 'Raush' river. It is hoped that such barbarisms will not survive.

¹⁷ Hitherto Mt. Sir Sandford, 11,590 ft., in the northern Selkirks, has held that honour.

indulging in the baser satisfactions of sardines and biscuit we crossed thither, finding the intervening saddle barely 200 ft. deep. The peak, unlike the higher summit, is a rather narrow ridge paralleling Sand creek. The wind was so high that it was difficult to move about with any feeling of security. We made sure that we could see into the valley, then returned to the other summit. The difference in elevation between the two is only a few feet.

We started down at 9.10 A.M., stopping at the rock outcrop to build a small cairn. We were thankful now for the cloudy sky, for without it parts of our route where the snow was barely deep enough on the ice to grip the boot-nails might have made less pleasant going on the descent. As it was, the crevasses had softened up considerably, especially lower down, and we floundered into a couple of them. When we got to the Kiwa névé we went out on it some distance to get pictures, then back over long snow stretches and some rocks to our bivouac at 12.30 P.M. A trickle of water here refreshed us; we had had little at breakfast and none during the day. As we set our faces towards the valley the mists clung threateningly to the summit of Mt. Titan. Kiwa peak was incredibly beautiful in a mantle of cloud shadows. About half-way down the ridge it started to rain, but the steeper rocks were behind us and we made camp without mishap, although somewhat wet, just in time for supper. It rained all night.

There followed two days of rain. On the 8th it cleared, and we sent Burns back to Tete Jaune to fetch up the horses, while we went up during the afternoon to our camping-place above the E. side of the glacier for a last climb. We wanted to go to the head of the Sand Creek névé, where we could see down into the McLennan river. In the morning we crossed the side glacier to a large ridge or nunatak between it and the main ice-fall, then up beside this through the ice-fall and out on to the upper plateau. The weather was far from settled. Clouds gathered low, and a wintry wind flung frozen ice crystals from the névé crust in our faces. At 6.25 A.M. we reached the top of the first peak of importance rising from the crest of the névé, rather to the E. of its centre. The altitude was about 10,075 ft. We were interested to find here a cairn containing a Canadian one-cent piece, but no other record, doubtless left by Professor Holway's party in 1916.

The weather was very dull; we spent three and a half hours on the summit and got a little sunshine, but soon it clouded over again. Our peak was on the edge of a very steep

escarpment dropping away to the McLennan river, giving us an unobstructed view in that direction as well as across Sand creek. A continuous glacier mantle extends across the head of the McLennan valley from Mt. David Thompson to Mt. Titan, presumably continuing up the S. side of the latter to the summit. Set somewhat back between the two is the mountain separating the North Thompson and Shuswap rivers. Here is a triple watershed between the North Thompson, Shuswap, and McLennan rivers. The pass to the left towards the North Thompson is very broad; from it a magnificent glacier flows to the McLennan river. The rugged upper ridge of Mt. David Thompson rises above.

Some distance to the left of Mt. David Thompson a long, winding glacier comes down into the valley from lower snow-clad ranges to the S. Across from this, just E. of us, the group of nameless peaks S. of Mt. Challenger sends down a third tongue. We could look down where the three glaciers almost meet and form the source of the McLennan river. The range to the E. of us, along the N. side of the valley, S. of Mt. Challenger, presented a wonderfully varied network of ridges and broken glaciers, reminding one of the Selkirks. It contains several fine peaks, which might be accessible from the McLennan river side.

We crossed with little effort to two adjacent summits, altitudes 10,250 and 10,225 ft. respectively, rising from the eastern margin of the névé between our first station and 'Gunboat Ridge.' Both drop off very steeply towards the glacier draining to the McLennan river from the range to the E. On the second one, a rather sharp rock ridge at the top, a snow flurry overtook us. Soon we were enveloped in clouds and driving sleet. We beat a hasty retreat across an area of unpleasantly crevassed, slushy ice to the nunatak; it was a relief when the rocks loomed out of the mist. The descent to camp was completed in rain and hail.

After another day of unsettled weather the morning of July 11 dawned cloudless and perfect. It was the day set for our departure. For the first time since July 4 Robson was free of cloud. Reluctantly we bade farewell to the splendid mountains that had become so familiar to us. Five hours' march, from 8.20 A.M. to 3.25 P.M., brought us to the horse camp. In the evening Burns came up with the horses, and the next morning, another perfect day, we got down to the railway by noon. From here, some distance E. of Tete Jaune, we could still see the top of Mt. Titan.

Albreda Peak.

On practically all of our climbs in the Cariboods we had been impressed with a fine snow peak at the extreme northern end of the Gold range, not perhaps quite so high as the mountains further S., but the most distinctive summit of the range. This mountain lies in the angle between the Albreda and Canoe rivers, and is in full view from the Canadian National Railway for some distance S. of Albreda pass. It is the only important mountain in the northern Gold range that can be seen from the track. I had admired it when passing that way in 1920, and conceived the notion of climbing it at that time. A particular incentive arose from the fact that, since no other high peak of the northern Gold range is visible from the valley, it constituted practically a key-point for the further investigation of the range. We had a few days left after our Cariboo trip, and the time seemed appropriate for an attempt on it.

When Milton and Cheadle went down the North Thompson in 1863, they named this mountain 'Mt. Milton.'¹⁸ The name has since fallen into disuse, and the peak is now universally known as 'Albreda peak,' or 'Mt. Albreda.' This name is used in current railroad folders and appears on a large sign erected along the track S. of Albreda pass. The name 'Albreda,' as applied to the river and pass, undoubtedly also originated with Milton and Cheadle; Milton's aunt was Lady Albreda Wentworth-Fitzwilliam, and an earlier ancestor married Albreda de Lisoures.¹⁹ The present usage thus does not violate historical priority and is topographically consistent, so it has been retained.

After our descent from Sand creek we rested during the heat of the day at a spring near the Sand Creek railway bridge. From a meadow here we could see far down the Thompson valley. In the Gold Range, probably as far off as Blue River, a strange white peak stood up against the sky; we took it at first for a distant cloud. It was a suggestive sight, for nothing of the kind can be seen from the railway and there seems to be a

¹⁸ *The North-West Passage by Land*, p. 274: '... the next day we passed the height of land, and gained the watershed of the Thompson. . . . We . . . saw before us a magnificent mountain, covered with glaciers, and apparently blocking the valley before us. To this Cheadle gave the name of Mount Milton.'

¹⁹ *Canadian Alpine Journal*, 1915, 'Place Names in Vicinity of Yellowhead Pass,' by James White, p. 154.

general impression that there are no mountains of importance in the Gold range. About 4 P.M. we saddled up the horses and set out on a march of nearly fifteen miles across the dry sandy plain along the McLennan river, known locally (and quite appropriately) as 'Starvation Flats.' We reached Swift Creek just at nightfall and camped near the station, among tin cans, broken bottles, and other signs of the progress of civilisation. In the morning we shipped most of our goods back to Jasper and boarded the south-bound train for Clemina station with supplies for a six days' trip. The air was thick with smoke from fires in the Canoe and Thompson valleys, the first bad smoke we had had.

If the Cariboo mountains were in many respects *terra incognita* when we went into them, the northern Gold range was a complete mystery. We knew only that our mountain was near Clemina station and that a stream of white water, presumably coming from the glacier on its W. face, entered the Albreda river a short space below there. This glacier is very conspicuous from the railway, covering the whole face of the mountain, but lower down the valley is narrow and wooded and little can be seen from below. On the train we met a young trapper who gave us elaborate directions for getting to the 'big glacier' by a route which sounded quite reasonable at the time; unfortunately it developed later that he meant a different glacier. To add to our worries, when we got to Clemina we found that one of the fires was quite near the station, so that the mountains were completely hidden. The altitude of Clemina station is 2753 ft.

We went down the track about a quarter of a mile to the mouth of the glacial stream, where we found a cabin left over from some abandoned lumbering operation. After lunching at the stream we went up it about an equal distance, following a line of old blazes, to a second cabin. Crossing here on a log, we ascended the steep hillside to the S., as directed by our informant. The going was very much harder than in the Cariboos. It was big cedar country, reminiscent of the lower valleys of the Selkirks, the ground often covered with deep moss, and with alders and devil's club above a tall man's head. We had to relieve King of his side-packs, as he got hung up continually in the low brush. We could see nothing but the trees around us, and their majestic canopy overhead. There were some blazes of a very old trap-line, but they were difficult to follow. Presently they ceased, and we dropped down 600 ft. to the stream bed, where we camped, not far from where the stream



MOUTH OF STREAM LEADING TO ALBRED A PK.



Photos by A. Carpe.

SUMMIT OF ALBRED A PEAK.
Route of ascent in background.

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forks, at an altitude of 4000 ft. It was 7.30 P.M. We were interested to find the rocks in the stream to be largely a coarse, solid gneiss, containing enormous crystals of hornblende. On the opposite bank was a trapper's cabin.

The next morning we crossed again and went up the N. (clear) fork until the going became very bad, then climbed the wooded shoulder between the two branches with a view to dropping down into the head of the S. fork, where the big glacier of our peak was supposed to be. After a hard pack we reached a place where we could see out a little through the trees, for the first time since we entered the woods. It was very smoky. There was ice at the head of the valley into which we looked, and we were reassured at first, but when we got a better view everything was unfamiliar. The expected western face of Albreda peak, with the big glacier seen from the railroad, was not there. Instead the valley was rather open at its head, and a high peak on the S. side of it rose in a steep wall. It was clear that we had been in the wrong valley from the start and were now on the unknown northern side of our objective.

The mountain was still a good distance off and did not look inviting from this side. But there was no time to retrace our steps, so we had no alternative but to make the best of our position. We descended through steep alder thickets to the valley and pushed up its swampy bottom, alternately wading ankle deep among the marsh grass or forcing our way through dense timber. Shortly after five it started to rain, and we just managed to reach a moderately dry spot and get our tents up before a heavy downpour. We had been on the march since 9.30 A.M. The altitude was only 4650 ft.

During the following days rain alternated with clouds, and the barometer went up and down without visible effect on the weather. Our provisions were low. On the 15th the men shot a marmot. We went up the valley to examine the E. ridge of our peak, our principal hope of ascent, but got in a snowstorm and could not see to the top. The glacier comes down about a mile above camp, its tongue reaching an altitude of about 5250 ft. Beyond it a goat trail along the sharp crest of a moraine leads to a high grassy bench overlooking a hanging basin at the head of the valley. Here we found two pretty lakes, one glacial, the other clear, side by side. The glacier really has two branches—the one draining directly to the valley, the other feeding these lakes. Their altitude must be close to 6000 ft.

On July 17 our larder permitted us only one more day. Although there was little change in the weather, we took our

sleeping-bags and a tent up to the shoulder N. of Albreda peak for an attempt. When we first looked out in the morning we were in the clouds, but by 5.45 they lifted sufficiently for us to find our way to the glacier. This we crossed at a level of perhaps 7000 ft. to the E. base of our peak. A rock ridge comes down in this direction, but we had never been able to see to the top of it. It was connected with the glacier by a sharp little snow arête, up which we climbed to the rocks at a height of about 9100 ft. We were just level with the clouds. The snow slope to the right of the arête measured 52° by clinometer.

As soon as we touched the rocks we felt sure of success, for they were a solid gneiss, interspersed with big pieces of vein quartz, superior to anything I know of elsewhere in Canada. As we worked higher into the clouds our surroundings were indeed spectacular. Great blocks and slabs loomed up through the mist, frosted with sleet feathers. Snow had sifted in between and covered the looser material, freezing it fast in some places. Near the top were two big gendarmes which would have made good climbing even under more favourable conditions. At no time could we see more than a short distance through the fog, and it was fortunate that the ridge was well defined and admitted little deviation.

At 10.34 we reached the second of two points of nearly equal height, from which a western face, merging into ice, sloped vaguely down into space. It was the top. The temperature was 28° . The barometric height (corrected) of 10,090 ft. is necessarily only approximate under the circumstances; photographic levels from the Cariboos yield a slightly greater figure.²⁰ A wet snow was falling and we could see nothing. It was difficult to realize that we were on the summit from which I had hoped for years to study the Gold range, the Cariboos, and the little-known mountains down the Canoe river. It seemed an empty victory.

We descended at once. At the base of the rock ridge the clouds gave some hope of lifting, and a patient vigil yielded a few tantalizing glimpses into a very deep valley to the S. of us, with mysterious peaks and glaciers beyond. Those that we could see were apparently lower than Albreda peak, but from our Cariboo views the range further S. must exceed this altitude

²⁰ Due to the distance (about thirty miles) these sights are probably little more reliable than the barometric figure. The two may perhaps be averaged at between 10,100 and 10,200 ft.

by nearly 500 ft. To the N. and E. we looked across the Canoe river to the Rockies, but elevations of importance are lacking in this part of the range.

The next day we regained our forks camp in about three hours' time, following the valley bottom, which proved much better than our route on the way in. On July 20, with the mists still low in the valley, we reached Clemina by a march of four hours and caught the afternoon train back to Jasper.

Topographic Work of Expedition.

Three barometers were carried, two of which were checked against a mercurial standard before and after the trip. By sending one instrument out with Burns when he went for the horses, readings were obtained on two complete round trips to the base camp. All readings were corrected for temperature, which ranged as high as 82° in the Fraser valley. A prismatic compass and Abney hand level were also used. The latter had been checked against a transit and read to five minutes.

Principal reliance was placed upon photographic data. The camera used for this purpose was a folding hand camera of rigid construction, fitted with transit plate levels. For use it was attached to a miniature three-screw base arranged to screw into a small hole tapped in the head of an ice axe, and except on very windy days could be levelled satisfactorily to about thirty seconds of arc. Index marks were placed in the back of the camera and photographed on to the film; horizon line and vertical centre were obtained from these by test photographs. The effective focal length was computed from the closure of several actual panoramas. Ordinary roll film was used, and in practice it was found that angles checked as closely as measurements could be made on the film, *i.e.* to about 5 ft. per mile. A strong ray filter was used to bring in distant features. Complete summit panoramas were taken with this camera at all stations occupied.

Barometric elevations obtained on the different peaks were interrelated and mutually corrected by means of the angles secured in this way and with the Abney level. The nearest points of known height were the peaks of the Robson group. Useful checks were obtained from angles to these points, as well as to Albreda peak in the Gold range. The distance is approximately 30 miles in both cases. The results of these sights are in substantial agreement with the barometric heights.

From the data obtained the Cariboo summits have been

located approximately with respect to the known peaks of the Robson group. A view obtained by Mr. Wheeler's survey of 1911 from the vicinity of Mt. Robson was used to good advantage in this work. It has been found, however, that the locations available at this time in the Robson area are not of sufficient accuracy, nor do they extend far enough to the north, to give very reliable resections because of the acute angles involved. The positions shown on the accompanying sketch map are, therefore, only correct to within about one mile so far as absolute location is concerned, although the relative positions of the peaks are substantially correct. It is expected that more reliable locations will be worked out when the results recently obtained by the Canadian Geodetic Survey N. of the Yellowhead pass become available.

In addition to Mt. Titan, the only peaks certainly exceeding 11,000 ft. are Kiwa peak and Mt. David Thompson. These are close to 11,250 ft. and differ only slightly from one another. Next in line are Mt. Welcome, the mountain between the Thompson and Shuswap sources, and Mt. Challenger, probably in the order named. These three are between 10,900 and 11,000 ft. Three of the peaks S.E. of Mt. Challenger, along the McLennan river, appear to exceed 10,700 ft.; a fourth is 10,500 ft. A high rock peak on the N.W. side of Sand creek, opposite Mt. Challenger, reaches the same height. There may also be some points W. of Kiwa creek in this class, although in general the mountains soon take on a more rounded appearance in that direction, but with many large dome-shaped glaciers. Due to the strong tendency to ridge formations there is a great number of lesser summits exceeding 10,000 ft.

The glacier mantle centering about Mt. Titan is practically continuous and feeds the Shuswap, Thompson and McLennan rivers, Sand and Kiwa creeks. Glaciers are said to flow from the vicinity of Kiwa peak to the Shuswap river, one coming down clear into the valley. The trail to the North Thompson²¹ passes close by its snout, and Goodell told us that the ice had receded perhaps a hundred feet during the last three years. In our part of the range we could detect little change as compared with pictures taken by Prof. Holway and Dr. Gilmour in 1916.

In conclusion it may be stated that the Cariboo mountains are rather inaccessible now because there are practically no trails in the valleys. The actual distances are not great. A

²¹ To avoid misunderstanding, it should be stated that this trail does not continue down the Shuswap to the railroad, and is therefore not available as a means of access to the mountains from that side.

comparatively small amount of work in making trails would open up a region very similar in its attractions to the Sandford district of the northern Selkirks,²² and relatively much nearer the railway.

NOTE ON THE GEOLOGY OF THE CARIBOO AND NORTHERN
GOLD RANGES.

By ROLLIN T. CHAMBERLIN,

Professor of Geology at the University of Chicago.

THE Cariboo mountains, so far as we saw them, are composed of a vast series of ancient metamorphic rocks which bear strong resemblance to the Shuswap terrane of the western Selkirks and the region of the Shuswap lakes. The Shuswap has been classed as Archaean, but the proper correlation of these metamorphic rocks is exceedingly difficult. They may perhaps be of Proterozoic age. In the Cariboo mica schists predominate. Subordinate to them are gneisses, some of sedimentary derivation, others developed from granitic intrusions. Veins of pegmatite are abundant.

The mica schists have been derived in large part from old sediments, through strong regional metamorphism while deeply buried. The secondary schistosity is essentially parallel to the original bedding. While sharp recumbent folds are prominent locally, the schists have a general south-westerly dip throughout the greater part of the range. Much shearing between beds and low angle thrust faulting is to be suspected.

Certain members of the series are composed so largely of coarse biotite, muscovite and sericite, that they weather and crumble readily. In crumbling, they yield in some places quantities of small red garnets. Interstratified with these weaker layers are quartz-biotite members of greatly superior resistance, which are excellent rocks for climbing. This combination of hard crystalline rocks with weaker schists, subjected to glacial sapping and high altitude weathering, has given rise to picturesque, rugged peaks of great variety and sustaining interest to the mountaineer.

While the Rocky mountains of Canada have resulted largely from a single orogenic disturbance (the Laramide Revolution, following the Cretaceous Period), the region of the present Cariboo range has suffered from two great orogenic upheavals which have left their records in the rocks. At the close of the

²² *Mountaineering and Exploration in the Selkirks*, by Howard Palmer (Putnam, 1914).

Jurassic Period the Cariboo region was affected by strong mountain-building movements which developed Pacific Coast ranges from California to Alaska. At that time the rocks composing the present Cariboo mountains lay deeply buried in the deformed mass. Though strongly metamorphosed, they were not greatly folded. Rapid denudation of the mountains during the Cretaceous Period swept away the overlying rocks and deposited the material in the form of thick Cretaceous sediments in the Rocky Mountain area and the Great Plains to the E. The close of the Cretaceous Period witnessed the birth of the Rockies and the further uplift of the Selkirks and Cariboods. Sculpturing by the agencies of weathering, running water and glaciers, interspersed with regional uplifts, have produced the present beautiful range.

In the vicinity of Albreda peak in the northern Gold range the principal rocks are biotite gneiss and hornblende schist of metasedimentary origin, together with intrusions of amphibolite and pyroxenite. The biotite gneiss is hard and firm, affording splendid hand-holds and foot-holds for the climber.

NEW ASCENTS AND EXPEDITIONS IN THE CANADIAN ALPS IN 1924.

BY HENRY S. HALL, JUNR., A.C.,

reprinted from *Appalachia* (with additions).

THE past season in the Rockies has seen a continuation of the great activity of the previous year. The weather during June and July was generally favourable for climbing and mountain travel, but broke badly in August.

Early in June, Mt. Iconoclast, 15 miles N.W. of Glacier, B.C., and two near-by unnamed peaks were climbed for the first time by Dr. Cora J. Best and Mrs. Audrey F. Shippam of Minneapolis, led by the guide, Christian Häsler. These three, with one other local man, back-packed up Mountain Creek from the railroad, crossing alder slides on the deep winter's snow still in place, and made what are probably some of the earliest season's climbs on record in the Selkirks.

Dr. J. Monroe Thorington of Philadelphia, with Mr. Alfred Ostheimer, Dr. Strumia, and the guide, Conrad Kain, journeyed up the Whirlpool from Jasper, accomplishing first ascents of Mts. Oates, Kane, and Hooker, the latter being the peak early made famous by greatly exaggerated reports of its altitude. Hooker (10,782 ft.) was conquered only after three attempts.

On the final climb the party was caught in a severe storm and forced to spend two nights near the summit under most trying conditions. Later the party moved into Tonquin Valley, making the first ascent of Simon Peak (10,899 ft.), the highest summit of Mt. Fraser, from which springs the river of that name. From the Mt. Robson camp of the A.C.C. they made a new traverse of Resplendent by the N. arête and the first ascent of an unnamed peak E. of Resplendent.

Probably the most noteworthy purely climbing feat of the season was the first ascent of the rock tower Mt. Geikie (10,854 ft.) by Mr. Val A. Fynn of St. Louis, accompanied by Messrs. C. G. Wates and M. D. Geddes of Edmonton. This peak, previously adjudged by competent observers to be one of the most difficult unclimbed summits in the Rockies, had been attempted several times in 1922 and 1923 by Messrs. Wates and Bulyea, who were never able to overcome the last 300 ft. Led by Mr. Fynn, the guideless party accomplished the climb from their camp at the N.W. base of the peak and back in 27 hours. Mr. Fynn characterises the climb as very intricate and fairly difficult, but less difficult than a number of peaks in the Alps. The rock is not always firm, however.

Mr. Fynn with Christian Häsler later made a new route on Sir Donald at Glacier. The route can best be described, in the absence of a diagram, as a letter 'Y' on the W. face (opposite the hotel). The ascent was made up the centre of the face for a few hundred feet, then to the right and eventually by the ordinary route to the summit, traversing summit ridge, descending by N.W. arête about halfway, then swinging back diagonally downward across the face, to effect juncture with right arm of 'Y,' and thence down again to the base of the rock pyramid. This rock work was accomplished in 5 hours, equally divided between ascent and descent.

Foremost among the exploratory climbing expeditions of the summer was that of Mr. Allen Carpe of New York and Professor Rollin Chamberlin of Chicago into the Cariboos. Leaving the railroad at Tete Jaune on the Prince Rupert line of the Canadian National, the party moved at first with pack-horses and later by back-packing S.W. into the practically unknown Cariboo Range. From a base camp at 4500 ft. near the tongue of a large glacier, no less than eight first ascents were made of peaks ranging from 10,000 to 11,900 ft., the altitudes of these unnamed peaks being approximated from aneroid readings and levels taken from other distant known points. The peak calculated at about 11,900 ft. is the highest in the group, and its discovery and ascent may be said to be

one of the most noteworthy achievements of recent years in Canadian mountaineering, inasmuch as no peak over 11,000 ft. was supposed to exist in that region. None of these peaks are visible from the railroad, though the nearest are but a dozen miles away. Another interesting first ascent was made by this party in the Gold Range of a peak just E. of Clemina station on the Canadian National line to Kamloops. This ice-covered peak of about 10,000 ft. is seen prominently from the railroad at a point some miles N. of Clemina station, itself only 2700 ft. It was named, according to Mr. Carpe, 'Mt. Milton' by the early travellers, Milton and Cheadle, but appears to be known in the railroad literature as 'Albreda Peak.'

Messrs. L. U. Harris, W. O. Field, and F. V. Field, with the guides, Edward Feuz and Joseph Biner, the latter brought over from Switzerland for the occasion, went into the Columbia ice-field from Lake Louise and accomplished the first ascent of South Twin (11,675 ft.) and second ascent of North Twin on the same day, being out 24 hours from their camp at Castle-guard Meadows. They made also a third ascent of Mt. Columbia, the first time by the S.W. arête, and also the first ascent of an unnamed 10,800 ft. peak at the E. edge of the ice-field. On the return journey they made first ascents of Mt. Outram (10,670 ft.) two miles N.E. of Mt. Forbes, an unnamed peak between the Mistaya and Howse rivers of about 10,000 ft. (climbed from the Howse Valley side), and Mt. Patterson (10,490 ft.) a few miles N.W. of Bow Pass.

Messrs. L. Coolidge, G. Higginson, and J. Johnson, with the guide, Alfred Streich, made the first complete traverse of Mt. Edith Cavell (first climbed in 1916); and in the Tonquin Valley district, first ascents of Mt. Erebus (10,234 ft.), and the unnamed rock peak, between Paragon and Bennington Peaks.

In August, Messrs. Howard Palmer of New London and J. W. A. Hickson of Montreal, with the guide Conrad Kain, went in to the headwaters of the Athabasca, making the first ascent of Mt. King Edward (11,400 ft.), but were prevented from attacking their main objective, Mt. Alberta, by continual bad weather.

Mr. A. A. McCoubrey of Winnipeg, with the guide Edward Feuz, made three first ascents in the southern Purcell range. He writes:

'Leaving Wilmer, B.C., and travelling *via* Toby Creek we made base camp on W. side of Earl Grey Pass. Thence back packed to source of Hamill Creek and from camp there climbed three peaks as follows:

- (1) Highest peak of the range, formerly known as Earl Grey, perhaps 11,000 ft.
- (2) Peak N. of it, sometimes called Lady Grey.
- (3) Peak immediately S.W. of Mt. Toby, formerly known as Mt. Gleason.'

The last two were well over 10,000 ft.

Measurements were taken of the Toby Glacier tongue, which is steadily retreating and more markedly during the last three years. (Measurements have been carried out during a period of nine years.)

As there are no accurate maps of the above region it is difficult to locate the peaks precisely.

W. E. Stone (killed on Mt. Eon, 1921) and A. H. MacCarthy (the Mt. Logan leader) travelled and climbed extensively through this region. Their articles appear in *Appalachia* and *The Canadian Alpine Journal*.

In the Wind River Range of Wyoming, almost the only remaining partially unexplored mountain district in the United States, three first ascents were made by a party of the Colorado Mountain Club led by Professor Albert R. Ellingwood. The peaks climbed were Mt. Helen (13,600 ft.), an unnamed peak N.E. of Helen, slightly lower, and an unnamed peak N.-N.E. of and slightly higher than Helen. A new route was made on Fremont Peak by the N. face.

It will readily be seen that the season of 1924 in the Rockies has been probably a record one, both in numbers of first ascents accomplished (something over thirty altogether, all but three being in Canadian territory) and in the number of separate parties and the total of different climbers engaged.

THE MOUNT LOGAN EXPEDITION.

THIS expedition, which has been before the minds of members of the Alpine Club of Canada since it was mooted by Professor Coleman in 1922, has now been launched, and already its energetic leader, Mr. A. H. MacCarthy, is on his way from Cordova in Alaska to push the transport of supplies and equipment over the proposed route. The peak itself, 19,850 ft., is the highest unclimbed mountain of the continent, the pre-eminence of which was recognized by the American explorer, J. C. Russell, who estimated its height at 19,500 ft. and named it after Sir William Logan, founder and first director

of the Geological Survey of Canada. His observations were confirmed in 1913 during the work of the International Boundary Survey. The peak is situated $60^{\circ}35''$ north latitude in Canadian territory, in the S.W. corner of the Yukon, twenty-six miles N.E. of Mt. St. Elias (18,100 ft.), and eighty miles from the shores of the Yakutat Bay. Although 9300 ft. lower than Mt. Everest, it is 1500 miles nearer the North Pole, and this tends to equalize the temperatures prevailing in these two very different mountain regions.

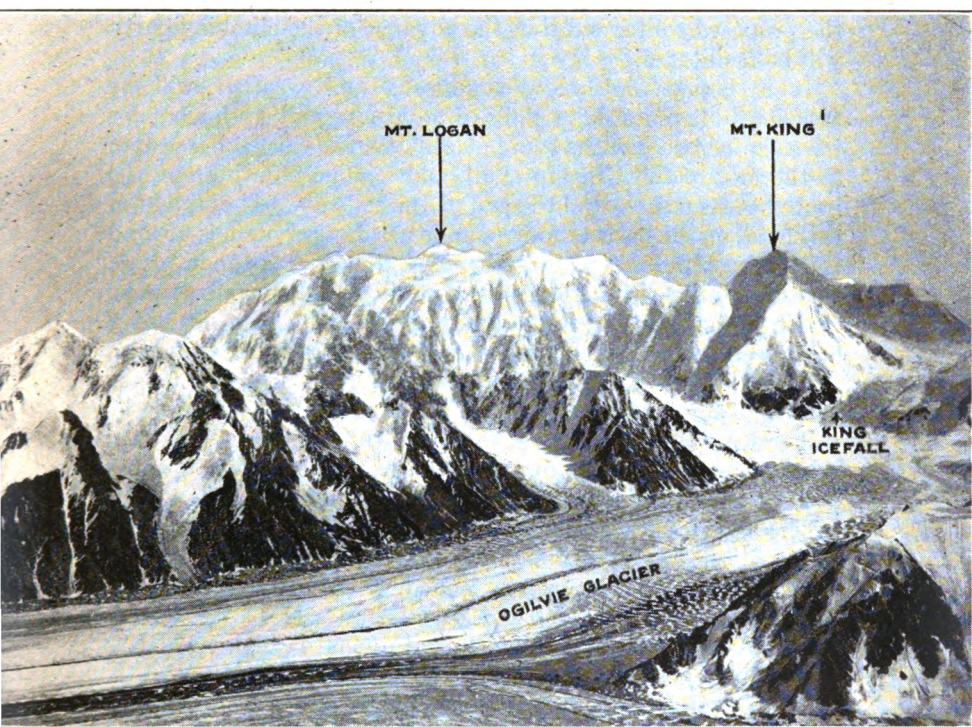
Mt. Logan (est. height 19,850 ft.) rises about 14,000 ft. above the level of the surrounding glacier, and is actually fifty miles from forest vegetation. Its bulk is enormous, its base having a circumference of one hundred miles. At the 10,000-ft. level it measures sixteen miles from E. to W. and eight miles from N. to S. From the eastern end of the massif flows the Seward Glacier, one of the largest Alpine glaciers known, itself a tributary of the Malaspina, on the S. side of the group, one of the largest of the Piedmont type, which descends practically to the seashore, having an area of 1500 square miles. Between Mt. Logan and St. Elias lies the huge and little known Columbus Glacier; on the N.W. side lies the Logan Glacier, the explored part of which is forty-five miles long and from three and a half to five miles wide. It is nearly eighty miles up the Chitina Valley to the foot of the Logan Glacier, and then there are fifty miles of ice and snow to traverse to the foot of the ice-fall of the King Glacier. The real climbing, which will then begin, involves an ascent of over 11,000 ft., over a distance of sixteen miles to the summit.

There are three possible routes of approach to the objective of the expedition. One by way of the Malaspina and Seward Glaciers from Yakutat Bay was followed by the Duke of Abruzzi's expedition in 1897. It has been discarded because of the unfavourable fog conditions along the coast, and the apparently unscalable cliffs of the S. side of the mountain, as indicated by the photographs taken by the Abruzzi expedition. Another route is by way of the Kuskawalsh Glacier to the E., and then from Lake Kluane to the N.; but of this route nothing is known beyond Lake Kluane, and another year's reconnaissance would be required to ascertain its feasibility.

The route decided upon, and which was prospected last year (1924) by Mr. MacCarthy, starts from McCarthy,¹ the terminus of the Copper and North-Western Railway running from Cordova on the Pacific. It leads up the Chitina Valley to

¹ Not named after the leader.

the Logan Glacier, and then up its tributary the Ogilvie Glacier. Mr. MacCarthy made a base camp at the end of the latter and near the foot of the King Ice Fall at about 8500 ft., and at a distance of some sixteen miles from the summit of Logan. From here he ascended to a point called Observation Peak (10,200 ft.), opposite the Col of King Peak, over which the



North side of Logan Range, taken at a point above Logan Glacier on the International Boundary at a distance of thirty miles from Logan itself.

- 1.—The actual position of Mt. King = King Peak, which is 2700 ft. lower than Logan, may be more to the left. Compare the map.

route appears to lie to Mt. Logan. Bad weather prevailed and only for brief periods did he obtain fairly good views. He reports that up to 12,000 ft. the way is little broken and of easy gradient. Between approximately 12,000 ft. and 14,000 ft. nothing was seen but the stretches. From what could be seen of the further stretches from the top of the King Col to the base of the final ridge of Logan, no climbing difficulties other than those of high altitude and miles of steep snow and ice slopes presented themselves. But it must be borne in mind

that these views were distant ones. Mr. MacCarthy spent forty-four days on the way between the end of the railway and return to it, and the information he has brought back has been largely decisive in forming the plans for the present party. On February 17 he was on the point of leaving MacCarthy to superintend the taking in of supplies by dog teams for the expedition. These will be *cached* at convenient places along the proposed route, and thus the advance of the climbing party will be facilitated.

It is hoped that snow conditions and weather will be sufficiently favourable to allow of provisions and equipment for ten men for two months being placed at an advanced base camp at the foot of the King Ice Fall, and for one month along the route between there and the end of the railway. The weight of this food, on the basis of four pounds per day per man, is around thirty-six hundred pounds, or five thousand pounds gross. The remaining outfit will make another five thousand pounds.

For oil stoves, Primus, roarer type, and Coleman No. 2 have been chosen, and a supply of 45 gallons of petrol provided.

This is what Mr. MacCarthy, with porters and dog teams, aims at transporting before the end of March. If possible he will return to Seattle, to sail thence, with the other members of the expedition, for Cordova on May 2. The expedition hopes to start from the Alaskan railhead toward the end of May.

The best time to start over the glaciers and snowfields appears to be in the early part of June. The spring melting of the winter snow has then usually ended, and the heavy summer melting of the glaciers will not have begun. Moreover, during June and July there is almost continuous daylight, which is very helpful to a strenuous mountaineering expedition.

The personnel of the party is the following :

- Mr. A. H. MacCarthy, A.C., A.C.C., A.A.C., in command.
- Mr. H. F. Lambart, of the Geodetic Survey of Canada and a Vice-President A.C.C., second in command.
- Col. W. W. Foster, A.C., former President A.C.C., A.A.C.
- Mr. Allen Carpe, A.C., A.C.C., A.A.C.
- Mr. Norman H. Read, A.C.
- Mr. Lennox Lindsay, A.C.C.
- Mr. H. S. Hall, jun., A.C., A.C.C., A.A.C.
- Mr. Robert M. Morgan, President Dartmouth (New Hampshire) Outing Club.
- Mr. Hamilton Laing, of the Department of Mines, naturalist and photographer (lent by the Canadian Government).

Mr. MacCarthy, elected to the A.C. in 1916, made in 1918, with Col. Foster and Conrad Kain, the first ascent of Mt. Robson, and has given many other proofs of his ability, determination, and endurance. The value of his preliminary exploration, made at his own expense, of the route in 1924, on which he and his two packers spent weeks on the glaciers hampered by storm and fog, cannot be too highly estimated, while the self-sacrifice which, when no suitable alternate could be found, he is again exhibiting this year in not only superintending but actually sharing in the work, under desperate winter-conditions, of getting the store-caches all laid ahead, proves again that the members of the expedition have in him a leader under whom they can be proud to serve. He has all the attributes required in the ideal leader of such an expedition.

Mr. Lambart, one of the vice-presidents of the A.C.C., has had, naturally, considerable experience in mountaineering, and served as one of the British surveyors on the Alaska Boundary Commission covering the Mt. Logan country. He thus possesses very valuable local knowledge.

Col. Foster, D.S.O., A.D.C., elected to the A.C. in 1921, a well-known Canadian soldier with a distinguished record in the War, a former President of the A.C. of Canada, took part in the conquest of Mt. Robson and has climbed in other parts of the Canadian Alps.

The Young Guard is represented by men all close about thirty, viz.:

Mr. Allen Carpe, elected to the A.C. in 1923, is the author of a model paper on the Cariboo Mountains in the present number. He had, while a student in Europe, considerable experience in the Alps, and has since shown, in the company of Mr. Howard Palmer and others, not only great powers as a mountaineer, but has applied his scientific training with marked success to the elucidation of the topography of the various groups of the Canadian Alps which he has visited. He may be relied on to second in every way the efforts of his leader.

Mr. Read, elected to the A.C. in 1916, served in the R.A.F. in the War and has also had considerable Alpine experience. He will give a good account of himself.

Mr. Lennox Lindsay is a well-known Alberta rancher and member of the A.C.C.

Mr. Henry S. Hall, jun., elected to the A.C. in 1924, is crammed full of energy and enthusiasm and will pull his weight. He spent several winters in the Engadine, and has also served under Mr. Howard Palmer and has given proofs of endurance and enterprise.

Mr. Morgan is a younger man—twenty-three. His mountaineering experience is necessarily limited, but he brings to the expedition personal strength and a perennial fund of good comradeship that is a valuable asset.

Mr. MacCarthy is fortunate in his staff, and we know full well that *everything that reasonable care will justify doing* will be done.

Thus, so far as the mountaineering clubs of the English-speaking world go, it is of quite international composition. The Dominion Government is seconding Mr. Lambart and Mr. Hamilton Laing for the expedition and paying their expenses, and Messrs. Read, Hall and Morgan go as volunteer supporters. The services of two experienced local packers, Andrew Taylor, formerly of Ottawa, and Miles Atkinson, known as "Scotty" since, happily, he hails from Edinburgh—one never fails to find in every venture a Scot there or thereabouts—have been engaged. No professional mountain guide is included in the party.

Major Wheeler, of the first Everest Expedition, son of our Hon. Member the Director of the A.C.C., and Mr. Belmore Browne, one of the conquerors of Mt. McKinley, have rendered great services in the equipment.

An idea of the difficulties likely to be encountered will be gained by reference to Sir F. de Filippi's article on the Duke of the Abruzzi's Mt. St. Elias expedition, 'A.J.' xvi. 116 *seq.* (with photographs and sketch map), or to his magnificent book, and to Mr. Belmore Browne's stirring 'The Conquest of Mt. McKinley.'

The Alpine Club of Canada is supported in its ambitious enterprise by other kindred clubs and associations: the Alpine Club, the American Alpine Club, the Royal Geographical Society, and the Appalachian Mountain Club. The handsome aid given by the Canadian Pacific Railway deserves also to be specially mentioned.

The real difficulty of any attempt on a peak like Logan is not so much in its height as in the risk of unfavourable weather, in having to live for weeks on snow and ice, and to transport food and equipment over wind-swept wastes. An impasse may be encountered, according to Mr. MacCarthy, at or near the Col of Mt. King, marked \times on map, which would render the choice of a different route imperative. The expedition may be expected back at Seattle early in August.

The map is a reproduction of the map of the British-U.S.A. Commission for the delimitation of the frontier.

Mr. MacCarthy's route and camps of his preliminary survey in 1924 are marked. *R* indicates the site of the proposed advanced base camp. The dotted line beyond this indicates Mr. MacCarthy's proposed line of ascent so far as can at present be laid down. The King Col above the Camp is indicated by a \times .

We are indebted to Professor Hickson, A.C., President of the A.C. of Canada, for the information embodied in this note as well as for the map and photographs which will enable the expedition to be followed intelligently. He will not need to be assured that this great undertaking of his Club will be followed by all of us with the keenest interest.

Later.—Mr. MacCarthy reported under date March 6 that he had reached the Chitina Glacier immediately below the Logan Glacier in seventeen days from McCarthy. He encountered greater difficulties than expected, and may not, in the time, get the supplies higher than the junction of the Logan and Ogilvie Glaciers.

Mr. MacCarthy, at the date, was pushing on with his two men and three dog-teams with a temperature touching at times — 30° F. Nothing more had been heard of him up to April 11, when the boat left Cordova for Seattle. Cordova is in telegraphic communication.

The proposed programme is: The party will leave Seattle on May 2. To Cordova by steamer is 1600 miles (5 days); to McCarthy by rail is 191 miles (2 days); to Chitina Glacier (3000 ft.) by pack train is 88 miles (6 days). At this point back-packing begins across the fifty miles of the Chitina, Walsh, and Logan glaciers to the advanced base (8850 ft.) (6 days). The real climbing difficulties begin here. From advanced base to King Col—8 miles, rise 5650 ft.; from King Col to 18,000 ft. level—5 miles, rise 3500 ft.; from 18,000 ft. level to 19,000 ft. level between domes—4 miles, rise 1000 ft.; from 19,000 ft. to either summit—1 mile, rise 850 ft. The total distance is thus 18 miles, and the total height to be climbed 11,000 ft.

To these distances and elevations must be added the many difficulties encountered in travel across badly broken and moraine covered glaciers, long detours to get round crevasses, and the constant delays from crevasses in the 18-mile traverse

of Logan's ice blanket, almost 200 square miles in area, the advanced base camp site being the last rock outcrop on the route to the summit.

Mr. MacCarthy is under no delusions as to the serious character of the expedition. He sums up as follows :

'On account of uncertain weather and incomplete data concerning several stretches of the 18-mile traverse of the ice-cap to the summit, there seem to be four possibilities as to the outcome of the venture :

(1) That good weather and good snow and ice conditions will permit the summit to be attained in orderly fashion and a return to be made promptly to the base camp. Time and provisions would then be available for an exploration of the Logan Glacier to its source or where it flows east towards the Kuskawalsh.

(2) That the summit will be reached only after the greatest difficulty and labour on account of heavy going and bad weather, with no time left for further work.

(3) That the difficulties and dangers encountered will prove too great for the party to surmount or an impasse will be encountered at the King Col, thus making necessary the choice of an entirely different route and so turning this year's expedition into one of reconnaissance.

(4) That bad weather and low temperature may keep the party stormbound at the advanced base camp until supplies and endurance are exhausted, which is highly improbable.'

We are also indebted to Mr. Howard Palmer, V.P. of the American Alpine Club, for various details.

A VISIT TO THE GLACIERS OF RUWENZORI.

By CAPT. H. B. THOMAS,

Uganda Protectorate Government Service.

[This journey follows the line of approach of the Duke of the Abruzzi's expedition described in *Geographical Journal*, xxix., February 1907, which contains some superb photographs by Signor Cav. Sella, and the best map of the group.

A summary of this journey, including some photographs and the map, is contained in a paper by Mr. Freshfield, 'A.J.' xxiii., 386 seq.

A.J. xxiii. and xxiv. contain many useful notes on the Group.

The following may also be consulted :

'To the Mountains of the Moon,' by J. E. S. Moore (1901).

A.J. xxiii., 45 *seq.*, for Mr. Freshfield's paper on his own visit with Mr. Mumm to the Group.

'Ruwenzori'—an account of the expedition of the Duke of the Abruzzi (1908) by Sir F. de Filippi, with magnificent Sella illustrations and a map.

'Ruwenzori to Congo,' by A. F. R. Wollaston (1908).

The approach to the Group from Entebbe on Lake Victoria is now much shortened by a motor road to Fort Portal, the journey being made in two days.]

LITTLE original work has been done in the Ruwenzori Range since, in 1906, the Duke of Abruzzi solved the last of its major problems. The long journey¹ from the East Coast of Africa has discouraged climbers with experience and leisure sufficient to complete his investigations; but worthy climbs and valuable research are still waiting to be made.

From time to time, however, enterprising spirits, mostly officers of the Uganda Protectorate Government or missionaries stationed in the surrounding district, have found their way up the Mobuku Valley; but for the most part little more was attempted than a hurried visit to the terminal ice-fall of the Moore Glacier, at which point the valley is completely blocked by Mt. Baker.

I had been stationed in the neighbourhood, and with a brother officer, Mr. A. G. Ellis, had often discussed the apparent failure of nearly all these recent climbers to obtain a near view of the hidden central peaks. Just before the rainy season started an opportunity of obtaining a few days' leave arose, and we decided to make an attempt. Our expedition had no scientific purpose. Our very limited ambition was to photograph at close quarters the peaks of Mt. Stanley.

On the third day after leaving Fort Portal, the headquarters of the Government in the Toro District of Uganda, we reached the Mobuku River, and, being carried across on the

¹ The journey from Mombasa, the seaport of East Africa, can now be made by rail through Nairobi, the capital of Kenya Colony, to Kisumu, the port on Lake Victoria, thence by steamer to Entebbe, the capital of Uganda, and by motor to Fort Portal, in under a week altogether.

shoulders of willing natives, pitched our tent in the village of Ibanda. This was to be the base camp for the expedition, and we spent a busy day dealing with the numerous preparations which were essential to the success of our undertaking.

First of all we replaced our carriers, weak and weedy dwellers of the plains, by men of the local Bakonjo tribe. These hardy hill people were to be a constant source of amazement to us. Their agility and cheerfulness never failed them. Blankets were distributed. At least a week's supply of millet-flour for their use had to be provided.

Our own loads were carefully scrutinised for every possible reduction in weight. Finally, we interviewed our future guide, a most disreputable-looking old man, only distinguishable from his almost naked companions by the possession of one grimy cotton garment. He had been a porter with the Duke of Abruzzi's expedition, and proved himself invaluable. His sense of direction in trackless jungle or in a dense mist was unerring, and none so cunning as he at lighting a fire in the eternal dampness of the upper valleys.

Ibanda, with an elevation of some 4500 feet, stands at the point at which the Mobuku River ends its mountain course and reaches the level of the plain. On every side it is surrounded by spurs of the mountain. Far up the valley, framed by the frowning Portal Peaks, we caught a fleeting vision of the glistening snows on Mt. Speke.

On the first morning of a journey there is often some disorganisation, but at the fall-in before sunrise, in the glorious light of a moon just past the full, every one was in his place, eager to start. We reviewed our party. All personal attendants had been dispensed with other than a cook and his assistant and a Nubian orderly—a faithful retainer who had accompanied me some years previously on a climb to the Jackson Summit of Mount Elgon. Some 30 Bakonjo had been engaged to carry our 24 loads, half of which consisted of tentage for ourselves and servants and of porters' rations.

It may be of interest to some who have had recent experience of the modern Alpine guide to know the terms upon which these men were engaged. We were absent for less than a week, and paid the porters at the rate of about one shilling a day each, together with rations of native flour and a trade blanket purchasable locally for about five shillings—the blankets are more in the nature of a customary *backsheesh* than a protection from cold, as the porters are quite satisfied if they are distributed at the end of the journey. These porters, however, carry only to about 12,500 feet. Beyond this it

would be necessary to supply them with boots and warm clothing, and commissariat becomes increasingly difficult. The head guide who took us to the foot of the glaciers received twenty shillings for the trip, and was well content.

We soon left the riverine plain, and the track became a switch-back among the spurs on the S. side of the valley. By 9 o'clock we had reached the last native settlements. Here was the home of many of our porters. A party of girls from the surrounding villages, carrying baskets of cooked food, met us; a halt was called, and each man enjoyed a hearty meal. There was much shouting, a last exchange of jests with remaining friends, and once more we were off.

The limit of cultivation which we were now leaving presses right up to the virgin forest from which it has only lately been won. Through this we picked our way. There was no sign of man except for an occasional rough ladder tied to a tree, showing where the natives who hunt through the forest had climbed in their search for wild honey. Everywhere were tracks of elephants. Even in the forest the noonday sun was quite hot, and when we reached the Mahoma River, a tributary of the Mobuku, all were ready for a rest. The Bakonjo immediately began to smoke. This is carried out on a communal basis: a green banana stem some three feet long is produced, into one end of this is inserted a small leaf rolled to the shape of a cone and filled with tobacco; when lighted, the stem is passed from mouth to mouth, each man taking a few deep gulps. The effect appeared to be most invigorating; each man seized his load with renewed zest, and we commenced our climb out of the Mahoma Valley.

The ascent becomes steeper and steeper. The forest gives way to bracken, until one emerges on to a veritable knife-edge but a few feet wide. This is the crest of the ancient moraine left between the Mahoma and the Mobuku torrents. Hundreds of feet sheer below us on either side we could hear each of the streams roaring in its rocky bed. Bamboos begin to appear for the first time. The way follows this crest for some distance to our night's camping-place at Nyamitaba. This is merely a small clearing on the ridge, just large enough for a tent; an overhanging boulder provides a kitchen. The bamboo forest falls away on every side, and through it to the N., across the Mobuku Valley, we had glimpses of the Portal Peaks, which seemed almost to overshadow us, and of the cascades which mark the junction of the Bukuju River with the Mobuku.

It was a delightful evening. Every one was tired, but we

were all satisfied with our progress, for we had climbed in all well over 4000 ft. during the day. It was the 5th of March. Although the rains were due at any time, the weather could hardly have looked more promising. We were full of hope for the success of our expedition.

Full moon in the early evening has many fascinations, and for this reason we were regretting that we could not have started on our journey a week earlier. But when next morning we turned out more than an hour before the sudden tropical daybreak we realised the practical advantages of an early morning moon; by its light it was a simple matter to break camp; everything was packed and we were on our way before the first rays of the sun filtered through the tangled forest.

The track which we were to follow from here onward had not been traversed for nearly a year. It was therefore arranged that E. should keep with the porters while I pushed ahead with the guide and a few men with slashers to open up a path. Our main concern was to cut an overhead clearance for the porters' loads, for, contrary to the usual practice of hill peoples of carrying on the back with the aid of a head-strap, our Bakonjo, even in the most precipitous places, continued to carry on the head.

Imperceptibly, for the growing density of the bamboos shut in the view on every side, we were descending again to the Mobuku River, which we now crossed without difficulty on stepping-stones. For some distance its course is comparatively level, for we had reached the first of the series of water-logged terraces which are such an outstanding feature of the upper Mobuku Valley. The going was appalling. Moss everywhere covered a sea of liquid mud, through which we squelched our way ankle-deep; any attempt to keep dry-footed was useless. Plunging blindly forward, we found ourselves confronted with a bare rock cliff, over which tumbled the Mobuku Stream, representing in all a drop of nearly 1000 ft.

This is the Kichuchu; a less inviting place for a camp it would be hard to picture. Cold and damp, a fire was our first thought, for E. with the porters was probably an hour behind. To my dismay I had no matches. But, to the native of Africa, given conditions with which he is familiar, difficulties only arise to be surmounted. Our guide produced from a skin bag a set of fire-sticks and a scrap of bark-cloth tinder, and set to work with much grunting and a display of energy which must for him have made a fire almost unnecessary. In two minutes there was a tiny skein of smoke; his companions,

squatting round, blew gently and soon ignited some dry grass ; five minutes later a roaring fire was crackling.

The day promised fair, and when at length the porters arrived it was decided to leave such an unattractive spot and push on one more stage. On looking round for the way, however, it seemed for the moment as though we were entrapped. Only at a second glance does one discern a diagonal ledge following the N. margin of the cliff. Up this we clambered hand over hand, at places having to make use of an improvised ladder of poles. The porters performed acrobatic miracles, for to carry a box weighing 50 lbs. on one's head up a nearly perpendicular rock-ledge is hardly less. Eventually, this ledge reaches the rocky course of a small torrent, up which we scrambled to emerge on to a second terrace.

It is a noticeable result of the suddenness with which the changes of elevation during the ascent take place that the various zones of vegetation are so clearly marked as to make an instant impression upon the traveller. The region of bamboos had ceased. This was another world.

On every side we were hemmed in by a dense forest of tree heaths. Intertwined and contorted, they form overhead a screen through which the light filters with difficulty. Thick layers of moss envelop every trunk, every branch, almost obliterating the semblance of a tree. Underfoot is an age-long deposit of fallen trunks, treacherously hidden by the same covering of moss. No breath of wind stirs, no sound of life is heard, an eerie silence broods. This has been aptly named the Dead Forest. Slowly and cautiously we picked our way until the roar of a cascade told us that we had again reached the Mobuku Stream at the foot of another escarpment. This represents a climb of nearly another 1000 ft., but being formed of tumbled rocks held in place by ample vegetation it was negotiated with comparative ease.

It was a relief to rise above this dripping, dreary forest. From the top of this scarp at an altitude of over 11,000 ft. are some of the finest prospects obtainable in the whole valley. Below, the Mobuku Valley stretches away into the distance, its windings and terraces all distinguishable in the dense forest which creeps far up its steepest slopes. It is lost to sight behind the spurs which enclose the Ibanda flats, but, far beyond, everything merges into a golden haze through which glimmers one speck of silver : it is the sun glinting on the waters of Lake George.

Looking up the valley towards the heart of the mountain the view is dominated by the snow-covered summit of

Mt. Baker, framed between gaunt and precipitous cliffs. It is remarkable that this is the first view of the snow peaks that can be obtained after leaving Ibanda. So intricate and misleading is the topography of the upper valleys that more than one early explorer of the range was convinced that this was the same mountain as is visible from Ibanda. That is, of course, Mt. Speke, which is, in fact, completely isolated, and invisible from the upper reaches of the Mobuku.

The terrace of Buamba, the third of the series of plateaux, had now been reached. The contrast with the forest below was again startling. The ground is thickly carpeted with moss, from which peer familiar violets, forget-me-nots, and thistles; on every side is a profusion of everlasting flowers massed in bushes, of giant lobelias and senecios; the Mobuku, a limpid Alpine stream, winds peacefully by. In the brilliant sunshine it seemed a fairy garden.

Fifteen minutes' brisk walk brings one to the end of this level valley bottom. The towering cliffs close in to form a gorge. A small waterfall precipitates itself from a shelf on the S. side, and close at its foot, sheltered somewhat by the overhanging cliffs, our camp was pitched.

The porters straggled in as the afternoon wore on. Every one was tired out, but a square meal and a blazing fire are good restoratives. We ourselves were in high spirits, as we had in the day completed what might well be taken as a two days' journey; and the Bakonjo, who realised that the hardest part of their share of the expedition had been accomplished, were soon chattering cheerfully round the camp fires as they stirred their pots of unappetising-looking brown gruel.

Rising next morning in the chilly gloom before sunrise was frankly an unattractive ordeal. We breakfasted before a roaring fire, holding to the theory that every good African traveller should train himself to enjoy a hearty meal before leaving camp, even if a start should be made at 3 A.M. Leaving our men to pack, we set out with the dawn, accompanied by our guide and three men to carry lunch, wraps, cameras, and climbing gear. By a toilsome climb, winding among the broken rocks, one gains a ledge on the S. side of the valley, and in little more than an hour we had reached Bujongolo, whither our camp was to follow us. Beyond this no tolerable shelter for a large number of porters can be found. We spent a few minutes examining what was to form the advance dépôt for our attempts to reach the glaciers. It is merely a widening of the ledge which we had been following. Hundreds of feet below runs the Mobuku Stream. It seems but a stone's

throw across the valley, which is here almost a canyon, its opposite wall of bare rock so steep as to deny a hold even to the hardy vegetation of these regions. The arching cliff far overhead affords some sort of shelter for a tent; beneath a huge boulder is a cavern which we dedicated to the comfort of our porters.

When we left Bujongolo the ledge became more and more restricted, and at places a false footing would mean a drop which could hardly but be fatal. At length the way runs down to the level of the stream, which here takes a sharp turn from the N.

There directly in front, and less than a mile away, glistened the Moore or Mobuku Glacier. The sedgy valley bottom, which was still crisp with frost, is terminated by the frontal moraine marking the comparatively recent retreat of the glacier. Towards this we made our way with little difficulty, halting at length under the shelter of a large rock. Our guide was armed with one of the ingenious Bakonjo torches by means of which it is possible to carry a smouldering fire all day. A fragment of bark-cloth tinder is tightly wrapped in straw, and the whole covered with dried banana fibre. It hung from his wrist like a policeman's baton. Collecting the dried stalks of some stunted senecios, he had soon kindled a fire. Round its comforting blaze we crowded, and toasted some bread and bacon over the ashes.

The final scramble over the tumbled séracs leads by way of a chimney closed at the top by a huge boulder. Here it was necessary to fix a rope as an aid. At last we stood at the snout of the glacier. The elevation at this point is some 13,700 ft., and is the lowest permanent ice on the range.

The outlook was grim enough, despite the pale sunlight which filtered through the light mist overhead. The valley had again narrowed to a gorge, enclosed by towering cliffs, its end entirely blocked by the ice-wall which rose perpendicularly above us. This is fractured and pitted at its base, as intermittent melting has taken place; and from it issues the runlet of water which becomes the Mobuku River.

One of the minor objectives which we had set before ourselves had been to reach the top of this ice-fall. It was here that the extraordinarily spell of good weather with which we had been favoured did us a disservice. The only egress from the end of the valley is by way of a fault close to the E. side of the glacier. This is filled with debris held in place by morainal mud. With the sun overhead the temperature had risen above freezing-point, and as we worked our way laboriously

upward it became clear that we were running considerable risks. In his attempts to get a foothold, E., who was ahead, was dislodging rocks from the thawing, treacherous mud, which hurtled past me below. We were now on a level with the top of the glacier wall, and, after taking some photographs, concluded that it would be useless to go on. A hard frost would have been our salvation.

We retraced our steps with difficulty, but reached the foot eventually without mishap. Twenty minutes later we were back at our fireplace, and, after warming ourselves, pushed back to Bujongolo, where we found camp set. Rain and mist came down soon after our return.

Bujongolo, despite its elevation of some 12,500 ft., affords a certain amount of shelter, and the temperature seldom falls below freezing-point. We noted little real effect from the altitude, and our vitality and breathing seemed normal. The Bakonjo porters had made themselves comfortable in the cavern with a huge fire, and seldom emerged to the outer world. From arrival to departure they appeared to be engaged in preparing or eating one continuous meal.

The night passed uneventfully away, and we were about betimes next morning. At daybreak we were ready to start on what was to be our great task. For a few moments the sun, rising out of the far E. plain, crept up the valley, illuminating the cliffs with a marvellous orange light, but it was soon lost in the lowering mist just above our head. Mt. Baker, at the head of the valley, was invisible.

Our prospects could hardly have been less promising when we left camp. Following the same ledge as on the previous day for some distance, we came to a subsidiary valley which drains into the S. side of the Mobuku. This leads in a S.W. direction towards the pass, known as Freshfield's Col, connecting Mt. Baker and Mt. Luigi di Savoia.

We were soon enveloped in cloud. Fading into dimness on every side was a monotonous and featureless array of broken rocks, of lobelias, senecios, and helichrysum. There was, of course, no path. Here again our old guide showed his worth. Picking his way without the least indecision, in less than two hours he halted us at a huge rock. Plant life had noticeably become more stunted, and we realised that we had reached the limit of vegetation fit for fuel. We had completely lost our sense of direction. A dense white pall shut us in, limiting our view to a few yards.

We lit a fire and prepared for an indefinite wait. We could hardly be optimistic, for, judging from previously recorded



Photo: H. B. Thomas.

THE WATERFALL AT BUAMBA.

Mt. Baker in distance.



Photo: H. B. Thomas.

THE MOBUKU GLACIER

above the Terminal Ice-fall.



THE EDWARD PEAK OF MT. BAKER.



Photo: H. B. Thomas.

MT. STANLEY
from the S. Shoulder of Mt. Baker.
L. to R.: Elena, Savoia, Alexandra and Margherita Peaks.

experiences, these atmospheric conditions might last for any time up to a week. Then it was that the miraculous began. Above our heads a patch of blue sky appeared for a moment and was lost again in the swirling mists. Then more blue sky. Dark mountain masses were dimly distinguishable, now here, now there. A little later and the mists had disappeared completely at our feet, and we were looking down on the Mobuku Valley almost as a bird's-eye view. We identified a speck in the distance as being a tiny lake in the bamboo forest close to our camp of some days before at Nyamitaba.

Within half an hour the sky had completely cleared and a pleasant sun was shining. We saw that we were just below the crest of Freshfield's Col, over which the breeze was chasing the last wisps of cloud. The glittering snow-field of the King Edward Glacier crowned by the King Edward Peak of Mt. Baker looked down upon us.

Hurriedly we shouldered our equipment and made our way across the wide sweep of tumbled rocks which separated us from the foot of the King Edward Glacier. This is of a different character from the seeming river of ice which forms the outfall of the Mobuku Glacier. The whole of the mountain appears to be covered with a snow-cap through which a few bare black rocks are projected. The guides left us at the foot, as they are of little assistance upon the snow. We roped ourselves together, grasped our ice-axes, and commenced the ascent.

The ice is here trapped by a rim of rock, and by thus following the margin of the glacier we made considerable upward progress. At length we struck off in a diagonal direction across the open névé. An unbroken line of snow stood out against the sky above us and marked our goal. As we toiled steadily upwards across the intervening snow-field the effects of the intense sunlight were more and more noticeable. The surface became soft and moist. There was no longer any need to cut or kick a foothold, but our confidence in its stability was correspondingly reduced and we proceeded with more caution.

Suddenly, one step, as it were, threw open a prospect the immensity and grandeur of which took from us what little breath remained. A moment later we shortened the rope and stood together on the watershed of the range.

Other mountain masses afford panoramas of comparable wonder, but such is the persistence of bad weather in this the most secretive of Africa's mountains that to few has come the good fortune that had favoured us. Perhaps on not half a

dozen days in any year are all the highest peaks thus clear of cloud at midday.

Three-quarters of our horizon was bounded by snow-capped mountains. Right before us lay Mt. Stanley, the twin peaks Margherita and Alexandra completely snow-covered and standing out with amazing definition against a dark-blue sky. Mt. Luigi di Savoia like a giant rampart blocked the S. sky, every summit, every crevasse, clearly outlined. These two massifs are separated by the Butagu Valley, which faded away into the dense forests of the Belgian Congo, its lower end overhung with billowy clouds. Due N. of us, only a few hundred yards away, stood the Edward Peak, joined by a long saddle of snow to the gaunt rocky knob upon which Dr. Wollaston was beset by mist, and thus robbed of the opportunity and honour of being the first to describe the whole of the snow peaks.

When we had studied the outlook for some time we bethought ourselves of our more immediate surroundings. Ten yards beyond us the snow-line dropped out of sight, and we realised that within a stone's throw was the precipitous W. face of Mt. Baker, a sheer drop of 2000 ft. to the valley dividing us from Mt. Stanley. In the bitter wind we changed a roll of films with fumbling fingers. We had reached an elevation of not less than 15,500 ft., and with the summit of Edward Peak within our grasp were sorely tempted to proceed. Flecks of mist, however, were scurrying overhead which might envelop us with the same suddenness with which the fog had disappeared earlier in the morning. But that which most disquieted us was the softening of the snow in the intense sunlight. Its effects on the steeper slopes which lay before us we were quite unable to foretell. Reluctantly we concluded that it would be wiser to turn back. Far more had been accomplished than we had dared to hope in our most optimistic moods. We stood once more in silent contemplation of the scene around us, and it cannot be a matter of surprise if, in such surroundings, there flashes through the mind a sense of puniness and isolation, and of the futility of so much that lies below.

A few moments later we were glissading down the glacier. Protruding rocks were quite warm, and their radiation had melted the ice immediately surrounding them. At the lower limit of the glacier the change wrought by a few hours' sun was even more startling. From under the ice water was pouring in innumerable streams, and we felt that we had made a right decision in distrusting the stability of ice subject to such

intense sunlight. It was not until later that we learned that the glaciers of Ruwenzori, being subject only to a daily rather than a seasonal thaw, are exceptionally stable. Half an hour later we rejoined our guides around their fire, and warmed a most welcome meal.

On our descent towards Bujongolo we made a detour on to the crest of Freshfield's Col, whence once more we caught a fleeting glance of Mt. Stanley. As we arrived in camp the mist closed in and rain began to fall. Only then did we realise that we had physically reached the limits of endurance. Too exhausted even to change our clothes and with ferocious headaches, we each swallowed a double dose of aspirin, rolled ourselves in blankets, and soon fell asleep.

Little remains to be said. Our porters were all anxiety to return, and every load had left camp by dawn next morning. Nothing could stop them. All our upward camping-places were passed and our tent was finally pitched in the forest by the Mahoma River. Even then some of the Bakonjo went on to their homes, which were now little more than an hour's walk distant. That evening the weather began to show signs of breaking up, and it is some measure of our good fortune that within a week one of the heaviest rainy seasons on record had definitely set in. Our undertaking had undoubtedly been put through in the nick of time.

Early next morning we were again at Ibanda, and prepared once more to resume the trivial round and common task which occupy so large a proportion of the life of the white man in Central Africa.

MOUNTAINS AND THE PUBLIC.

By A. D. GODLEY.

(Read before the Alpine Club, November 4, 1924.)

I DO not propose to begin by apologising for this paper. Any necessary apologies should be offered by your secretary; it is for him to explain why an address unadorned by any of the usual pictorial adjuncts is thus wantonly inflicted on you. When a wild animal, a lion or (let us say) a boar, escapes from its cage and causes inconvenience to the public, you blame not the beast but the keeper who has let it loose. Mr. Spencer has let me loose; blame him. Having now located responsibility where it properly resides, I pass to

the speaker's usual task of showing the necessity, or at least advisability, of my address. The Alpine Club is now within a measurable distance of the three score years and ten allotted by the Psalmist as the vital span for humanity; and while happily there is no reason to suppose that a society is subject to the laws which govern the individual, still the proximate attainment of this important period marks a very proper time for reflecting on ourselves and the world in which we live. Say, if you will, that the critical date is still two years off, and that in common decency the paper might have waited till then. It might; I wish it had. But in that case it could not be delivered now; and your secretary said he wanted it now.

The subject, then, of this paper being mountaineering and the popular attitude towards it, it is convenient for me that the Dean of St. Paul's should have lately written an article on the same theme: a paper which might, indeed, have provided mine with a reason of existence, were any further reason needed.

The Dean has published some strictures on the mental attitude of those who go, like ourselves, to mountains for recreation. Dr. Inge, who is satisfied with so few things in this present world, is sadly dissatisfied with our manner of life in our holidays among mountains; he says so in an article which he calls 'The Return to Barbarism.' Now we need not quarrel with the title, which, indeed, shows the author in a mood of comparative optimism; for if we return to barbarism, we must at some time have temporarily emerged from it, and I think you will acknowledge that that is a striking admission, for the Dean. So we may at least be thankful for the headline; but in the article itself the writer relapses into his usual severity. We do not adopt a proper mental attitude in face of mountain scenery. We take our Wordsworth to the hills (so Dr. Inge says, and I am sincerely glad to hear it), but this laudable practice does us very little good. For a man may have a Wordsworth in his pocket, yet not be a Wordsworthian; he does not meditate as he ought, he spends far too little of his time in pure contemplation; so the vision of Wordsworth is not for him. 'Most of us,' says the Dean, 'have to confess, with great disappointment, that we cannot feel what the poet did.' The Dean is disappointed about a great many things; but I hardly think that most of us have a right to feel surprised and discouraged because we cannot reproduce Wordsworth's feelings in our own minds. Indeed, it seems that the poet himself had serious difficulties

in this matter. You will remember his theory about the proper stuff of poetry being provided by emotion recollected in tranquillity; and his latest critic has given us a picture (which would be sufficiently diverting if it were possible to be entertained by the sufferings of others) of poor Mr. Wordsworth making himself quite ill in the troublesome and not always successful process of trying to recall his own emotions in comparative tranquillity. Can we hope to succeed where the poet himself sometimes failed? Assuredly the vision of Wordsworth is not for most of us; nor was it always even for him: 'the things that I have seen I now can see no more.' Trying to recapture one's own emotions is a difficult business; trying to recapture someone else's rather recalls the stock definition of metaphysics—a blind man in a coal-cellar at midnight looking for a black hat which isn't there.

However this be, we might at least (says the Dean, and it is here that he does not quite see eye to eye with this Club) try to follow a better rule of life in the mountains. We ought to meditate more. 'Most people,' we are told, 'hardly know what meditation means. They would be astonished if a philosopher told them that contemplation is the highest form of activity. Their idea of activity is the activity of a squirrel in a cage. So they approach the mountains in a wrong spirit. A mountain for them is a sort of glorified greased pole to be swarmed up. Perhaps some of them know what is best for them; but the vision of Wordsworth is not for them.'

In this matter of meditation I cannot help thinking that the Dean demands too much of human nature—which, after all, is in its blind groping fashion pursuing the Ultimate Good, but even in the mountains finds itself hampered by mortal weaknesses. It is quite true, of course, that contemplation is the highest form of activity. Any of you could ask the Librarian to produce the Club copy of Aristotle's 'Ethics,' and could at once put his finger on the passages in which that great teacher insists on the doctrine now presented to us by the Dean. Meditation is indeed the highest form of activity: fortunate are they who can practise it! But how few of us, alas, have that command of their mental machinery which should enable them to meditate at will! It is, I fear, a matter of common experience; direct a man's attention to the grandiose and inspiring surroundings which meet his eyes, and command him to exercise his mind in such speculations as ought to be prompted by scenes of surpassing beauty or interest: will he attune his thinking faculties to his

environment ? The spirit is willing, the flesh is weak. With the best intentions in the world, he will in all probability at once become incapable of any kind of consecutive thinking. He will be smitten by a mental paralysis. If he retains any power of thought at all, he will find himself reflecting not on the great problems of Man, of Nature, and of human life, but rather on such topics as the relative advisability of walking down from the Riffel and going down by train, or the arguments for and against having afternoon tea again when he gets to the village ; and it is not, I conceive, such topics as these which are commended to us by Dr. Inge. It is, in short, no good to tell people to meditate. They would if they could ; but they can't. Anyhow, it is useless to suggest that they will meditate any better by avoiding the practice of going up mountains. I agree that the practice is impossible, or at least very difficult, at the moment of ascending the Grépon, or Doe Crag. He who in the act of scaling those altitudes should set himself to meditate coherently and consecutively on the Absolute would probably not have the opportunity of doing it again. But it does not follow that he will be the more inclined to meditation by looking at the mountains from below ; for either he will go to sleep, or be a merely passive recipient of images of sensuous beauty ; and neither state is consistent with truly philosophic contemplation.

Dr. Inge, it will be observed, includes under the same condemnation all who visit the mountains. Yet these are too vast and miscellaneous a multitude to be dealt with in this indiscriminating way. Now, after six years of restored peace and of post-war travel, with all its attendant embarrassments, we are perhaps in a position to consider the habits of those who once more go to the mountains for recreation. We can make some attempt to grapple with the psychology of new Europe, as we do with its geography. Even the Alps have not remained unchanged : it is there, in fact, that some of the characteristic impulses of modern times can be studied in a concentrated form. While the glacier, encouraged, no doubt, by its survey of the territorial readjustments which remodel Europe, descends with increasing boldness and increasing disregard of the convenience of its neighbours into the contiguous valley, the valley is also menaced by the irruptions of human hordes from below ; and it is much to the credit of the original inhabitants that they make the best of such space as is still left to them, and derive an increasing advantage from both the glacier and the tourist. It is not my intention to speak at length of the glacier. As for the tourist, his multiplication is in part due to the war—the

war, and the herd-like habit of congregation which is one of the inheritances which we derive from it. Partly from the self-protective herd-instinct, and partly from the difficulty of finding any other places of residence, we congregate in hotels, and we live and move by preference in crowds; and where shall you find more hotels and more crowds than in the Alps? And there have been particular national forces also at work. It was from no discourtesy, but rather from a compelling sense of truth that must be uttered, that a Swiss traveller once enlarged to me on the welcome opportunity which the war had given to his countrymen of regaining possession of their own mountains during the temporary absence of the usual occupants. They had their opportunity; they took it. The Swiss have recovered their mountain resorts, and they keep them. Neutrality has had its rewards; ground as they were for four years between the upper and nether belligerent mill-stones, the two most neutral and most business-like of Continental nations did find some pecuniary compensation: the Swiss can afford their own hotels; while the Dutch also are free to practise (if they can) their alleged national talent for 'giving too little and asking too much' upon rivals not unworthy of their steel. Meantime the beneficent activities of tourist agencies, among which it would be dangerous to select any for special commendation, continue to make trains a very fair imitation of the Black Hole of Calcutta—to inundate the shores of Lovely Lucerne—to devour like locusts all the available provisions of Glorious Grindelwald—and, no doubt, to gladden the hearts of shareholders in the Jungfrau Railway. But amid these miscellaneous multitudes, comparable to the migrant races of antiquity, there is but a small proportion of mountaineers. More and more, climbers become, in most regions, a class separate and distinct. Where there are roads as well as mountains—in the Dolomites, for instance—the general public finds what danger it wants in motoring, and has nothing to do with the lesser perils of the Langkofel pinnacles or the Cimone della Pala. Ask your hotels of the mountaineer; they know him not, nor he them. There are refuges among the hills, where the necessities of life can be obtained; among these the local climber lives and moves, only descending to the valley—so we are told—when he wants a bath. On such infrequent occasions one has the opportunity of speculating how long this Club could have survived had fashion decreed that the costume of its members, from the President downwards, must consist of a Club badge, an extremely inadequate pair of shorts, and a yellow sweater.

There is then among the crowds who go to the mountains a gulf fixed between those who are mountaineers and those who are not. This is a general truth; and it is of the essence of a general truth that it remains valid in spite of observed facts which may appear to disprove it. There *are* such contradictory phenomena. Thus, it may be said (not without truth) that the world is not so sharply divided. There are people who visit the mountains in a proper spirit, although also in a *char-à-banc*. They are spiritually mountaineers; yet not in the highest and truest sense of the word, for which you will probably agree with me that a modicum of physical ascent is essential. Nevertheless, it is possible to allege that there may be mountaineers outside clubs. Then again, how are we to classify those persons who go up one mountain and no more? We must first know why they do it; and that is very difficult to ascertain. The commonly received account is, I believe, that they wish to say they have done it. This is very improbable; for by adopting an easy and obvious alternative they might save themselves some physical exertion, besides the tariff for a guide and porter. In the absence of any certain motive, it may be doubted by the judicious whether these occasional conformists should be assigned to the sheep or the goats. Personally, I am inclined to suspect the animus (though, it is true, a subsequent career may do something to rehabilitate them) of people who begin their career by ascending a peak which enjoys a great reputation: I cannot help fearing that their guiding motive may be the same as that which leads so many of you to the Amusements department at Wembley.

Observed facts, therefore, point to the conclusion that climbers are a class apart, aloof from the general public, which is out of sympathy with their aims and ideals. At least, this is my hypothesis; and it is supported by the criticisms of the Dean of St. Paul's. For here we have a writer and preacher of high intelligence and wide knowledge of the world not only setting up impossible standards for mountaineers and even for tourists, but permitting himself to use intemperate language about greased poles and squirrels in cages; standing, in fact, as a type of that opinion which is based on a total misunderstanding of the spirit which animates this Club. For the Dean is not alone. He is giving eloquent expression to the sentiments entertained, I fear, by the majority of his countrymen; who, if they do not express themselves as picturesquely as the Dean, do for the most part regard the Alpine Club and its occupations with regrettable indifference—with a neutrality

which is rather less than benevolent. This, of course, cannot be seriously excused ; but it is susceptible of explanation. You will not, I trust, suspect me of any tendency to backsliding if I endeavour to set out the case against us as, no doubt, it presents itself to the public mind.

I will deal, therefore, with the influence exerted by the three great motives of Authority, Environment, and Inclination.

Authority, I fear, is not on the side of Alpinism. Take antiquity first : were I to weary you with a complete list of all the classical writers who have said very little about mountains, and nothing at all about their ascent, the record would include every author from the Trojan war to the fall of the Byzantine empire. You will tell me, no doubt, that Homer compares a warrior to a snowy mountain. He does so ; but obviously it is because he wishes to illustrate the inconvenience and danger caused by the hero to those in his immediate proximity. The Romans, again, called mountains horrid. Some of you may argue that the proper meaning of *horridus* is not horrid in our sense, but simply bristling or spiky. I fear I have no time to discuss these points of scholarship, which do not invalidate the general truth that business-like nations like the Greeks and Romans had no particular use for mountain scenery, and certainly none for mountain-climbing. To come to more recent periods : it is commonly held that Rousseau was the chief of those who taught our modern admiration of nature and scenery ; but Rousseau's natural world was the world of the valleys and sub-Alpine hills. Our own great nature-poets of the Romantic period were, no doubt, attracted and inspired by mountain scenery ; they saw the grandeur of the heights, but they did not see them as points to be attained ; they did not countenance actual climbing. Even so lately as some eighty years ago Tennyson did not say ' Come up, O maid, to yonder mountain height ' ; on the contrary, the lady who is presumably climbing Alpine peaks is definitely advised not to walk with Death and Morning on the silver horns, but to come down into the valley, where life offers a variety of far greater attractions. Among poems of the nineteenth century, while many have celebrated the majesty of mountains, there is only one which is apparently in praise of climbing ; and even there the fate of the climber is left problematical. I allude to ' Excelsior.'

The case is not much better when we turn to eminent writers of prose ; for Ruskin, who wrote beautifully about the forms of mountains, condemned with no uncertain voice those who

presumed to make a sport of climbing them. It may be said that to set against this we have the great Alpine literature of the nineteenth century. Alas ! men do not, I fear, read their Leslie Stephen, their Tyndall, their Forbes, their Moore, their Coolidge, till they are on the right road already ; the reading of these authors is more often the concomitant than the cause of conversion. And if literature speaks with no authoritative voice, much less does the example of our rude forefathers 150 years ago, or later. It was they who regarded the Apennines as bad enough, but less disgusting (to a man of taste and sensibility) than the Alps. It was they who, when conducted to the summit of Skiddaw, requested that the physical effects of that dangerous altitude might be corrected by blood-letting, and they themselves conveyed to some place of comparative safety in the adjacent valley. Where, then, are we to look for sanction from authority ? The Church itself denies us its consolations. It is true that this Club has been blessed by his Holiness the Pope ; but the successor of St. Peter is far away in the Vatican, while no distance mitigates for us the denunciations of the Dean of St. Paul's.

Turn now from the influence exerted on the potential Alpinist by authority, to the insensible promptings of his environment. What does he see around him ? What encouragement is he likely to receive from the classes which still possess prestige and the masses which have recently acquired power ? Practically none. He observes with dismay that among dukes, captains of industry, and other millionaires, the percentage of mountaineers is practically negligible ; and should he inquire of the ranks of trade unionism, the response will be even less encouraging. Title and wealth have other diversions ; and the trade unionist's cherished principle of limited hours of work is not really compatible with the practice of this Club—except, perhaps, that of its youngest and swiftest members. Thus he is confronted with the hostility or indifference of the two classes which most affect public opinion. He is driven to the conclusion that mountaineering is confined to the bourgeoisie ; and that is a class to which no young man in these days can wish to belong. I pass to another important part of environment. Magazine fiction (that great educator) habitually presents Alpine adventure in a singularly unattractive aspect : the incidents described are seldom such as the man in the train would wish to see reproduced in his own daily life ; neither heroes nor villains appear to him to offer models for his imitation. You know the kind of

thing. The hero and the villain—both, I regret to say, described as members of this Club—go out to pluck for the lady who ensnares their rival affections the prize of Alpine adventure—the edelweiss, which, as is well known, blooms only on the least accessible of the snow-clad summits. In pursuit of this coveted vegetable, the hero inevitably slips into a bergschrund ; his companion sees the opportunity for disposing of a hated rival, and cuts the rope. But kindly Nature defeats the machinations of villainy ; for the glacier, sweeping swiftly and steadily downward, takes charge of the fallen mountaineer, and duly delivers him safe and sound in the valley, just in time to prevent the villain from leading the heroine to the hymeneal altar. Such narratives are seldom founded on actual experience and knowledge ; but the public does not know that. When golf or cricket or Mah Jong is the subject of fiction, the reader is accustomed to a high standard of accuracy. He sees these pastimes presented by experts in a correct form ; naturally, therefore, he infers that the same is the case with mountaineering. Or, if he does recognise that the writer is moving about in worlds not realised, his natural conclusion is that a game cannot be worth playing which is not worth describing accurately, like the other pastimes which I have mentioned. It is true that we have among us one novelist whose Alpine descriptions shine like a good deed in a naughty world. But what is one novel among so many magazines !

It appears then that we have dangerous enemies in both authority and environment, both of which prove mountaineering to be unreasonable. Yet it is one of the Englishman's sources of pride that he is not, like some Latin nations, a slave to reason ; and mere logic might well fail, if counteracted by inborn instinct and natural inclination. Unfortunately, in the present case the natural feelings of the majority of our fellow-countrymen are on the side of tradition, and allied with the promptings of environment. Does Nature, for instance, suggest to them that mountains are beautiful ? We in this Club, and perhaps some others, are apt to assume that they are ; and with the experience of art as manifested on these walls we are entitled to pose as connoisseurs of beauty. But I ask you, gentlemen, to clear your minds of cant—to examine your conclusions and your premises (I do not mean necessarily the Club premises)—and then to show for the public's satisfaction to what canons of beauty so many yards of snow or ice or rock placed on an inclined plane do really

conform ; and why these singular formations should be admired by humanity. If we accept the Ruskinian canon which makes utility a necessary ingredient of beauty, what are we to say of mountains, which are really of no substantial use to anyone except hotel-keepers and guides ? According to this rule, a mountain which has no hotel near it (fortunately there are very few such) cannot be said to be beautiful ; it becomes beautiful when you build a hotel at the base, and still more so if you build one at the top ; and it will always be more beautiful to the hotel-keeper than to anyone else. A friend of mine, not an hotel-keeper, but a man of keen sensibilities and correct judgment, could find little to please him in Alpine scenery. He did not like the mountains, which, he said, obstructed the view, and should be got rid of. Evidently we are on no safe ground here. Further, in order to go up most mountains you must walk ; now the British public has a natural disinclination to walk. The feeling is overcome sometimes, but it is there. The late Hugh Sidgwick says somewhere in his delightful 'Walking Essays' that Elizabeth Bennet in 'Pride and Prejudice' was the first real English walker. Perhaps the habit is not of quite so recent origin as that ; but it is certain that the general public in this country does not yet care to walk for the sake of exercise or amusement, and regards those who do as slightly abnormal. They are, in a mild way, suspect ; it is better, on the whole, to do business with a man who uses a motor, as nature meant that he should. And if walking in general is hardly yet popular, still less so is walking uphill. That, for most of us, is abhorrent to our most deeply ingrained instincts. There was a man (I heard him, for I happened to be passing by) who sat by the side of the path leading up to the Riffel Alp, and when his companions urged him to press on a little farther—perhaps, as far as the first restaurant—replied to them in words which I do not think were meant for poetry, though they had the poignant sincerity of a great poetic fragment—'No matter where it leads me, the downward path for me.' That might be sung in churches ; and if it were, I am sure that most of the congregation at any mountaineering centre would join in with exceptional heartiness. In short, the great majority of average persons have no use at all for going up hills. Listen to them talking to each other, and you will hear them proclaim it, glorying in their shame. When they are in better company (our company) they will sometimes condescend to the tribute of hypocrisy which vice is said to

pay to virtue: they will make excuses; they will protest a bad heart, or more frequently a bad head, which is unequal to the terrific exigencies of mountain-climbing. Nor are they always insincere; for steep hills are replete with imagined perils of the most desperate kind. It is not surprising; the draughtsmen who illustrate such fiction as I have alluded to above invariably portray a mountain-side as perpendicular at best, and frequently overhanging; nor does the Press tend to encouragement. Every now and then its emissaries penetrate into the fastnesses of Snowdonia or the Lakes; and when that happens, the public sups its fill of horrors. I have known the day when climbing parties, whose chief desire and ruling passion was for personal safety, have shuddered to see themselves pilloried before the alarmed eyes of their distant and anxious friends under the taking title of 'The Brotherhood of Peril.' Is it then surprising if householders and ratepayers and breadwinners hesitate before they engage in enterprises so unfashionable, so unauthorised, so repugnant to the primal self-protective instincts of humanity?

No; it is not surprising at all. It is more unaccountable that there are so many devotees; that their number does in some strange and fortunate way increase. The fact is, I suppose, that mountaineering is (as was once shown in a paper read here) a religion; and it is an inevitable attribute of all real religions that it is much easier to assail them from outside than to demonstrate their appeal. Only the faithful comprehend, and to comprehend is not always the same thing as to make your comprehension intelligible to others. It is a religion; it has its sermons (this is one), it has even its hymns; and from time to time there is a collection. It has also its books of devotion, a great many of them. But these devotional works are mostly (as we see to be the case with most religions) for the elect, who are predestined to a state of grace, predestined to the vision which can recognise mountain-climbing as one of the few really stable good things amid the shifting values of modern moral and intellectual currency. Inevitably, that vision is not for all, or most. Nor, indeed, can it be wished that the case were otherwise. Excessive popularity might have its dangers. Let the public *en masse* take to climbing, and we may well imagine that there might be a cry for Brighter Mountaineering; we can conceive an appeal to make the Matterhorn Safe for Democracy. Things are better as they are.

POST-WAR FRIVOLITIES : GRAIANS AND ORTLER.

BY E. L. STRUTT.

(Read before the Alpine Club, February 3, 1925.)

I WILL not commence with the well-worn complaint, but I will say that I profoundly sympathise with you all that this paper should have to follow the most absorbing narrative of superhuman adventure that I have ever heard read in this room. I refer to Colonel Norton's paper of last December.

As I have little of interest to tell you, I will endeavour at once to justify the title.

In 1919 I was in the Near East, among Turks and polychromes. In 1920 I was far away on the shores of an inland sea, occupying fortuitously a kind of serio-comic 'Throne' in a democracy of unrest. The comic element became still further accentuated when I myself passed under the institution known as the League of Nations, while the arch conspirator and villain was appointed to the 'Throne.'

In 1921, at last, having compulsorily joined the great majority of unemployables, I was able to return to the Alps. In early July of that year I joined forces with that great mountaineer and profoundly thoughtful humorist Pierre Blanc, at Bonneval-sur-Arc. I do not propose to do more than dwell on a few of the expeditions that we contrived to accomplish during that very fine summer.

The first climb of any interest was the (first) crossing of the Col de Chalanson, 10,916 ft., between the Albaron and Piccola Ciamarella. It occurred quite by chance. For a wonder there had been a heavy fall of snow. On July 10 we started from Bonneval, Mr. R. W. Lloyd and Joseph Pollinger with us, for the Vallonet Glacier. Up that glacier we went, then over the Col du Greffier at its head, and on to the much-crevassed Glacier des Evettes. The day was very fine and hot. All four of us attained the kind of corridor on the N.E. face of the Albaron, and there Lloyd and Joseph parted from us, en route for the latter peak, while we continued east along the watershed, bound for the Ciamarella.

We crossed the head of the Col de Chalanson and were half-way up the Piccola Ciamarella, when it was borne in on us effectively that two feet of soft, fresh snow, under a tropical sun, over a ridge which looked about two miles long, was rather an exertion. When, however, Pierre had explained that no one had been on the N. slope of the Col de Chalanson, its

attractions, especially as the way lay downwards, became irresistible. We returned to the head of the Col and stared down its Evettes slope. On our left, W., was a vertical rock wall, crowned with heavy corniches; to our right, E., were evil slabby slopes flush with the ice, but the gully or snow curtain at our feet was in excellent condition. Some 750 ft. high and exceedingly steep, it led continuously almost to the surface of the glacier, and we concluded that we could return even if the last step above the Bergschrund proved too high to be jumped. We started straight down, and although the angle was certainly very great, yet so admirable was the shadowed snow that we arrived in some twenty minutes on the last step. Here all was almost perpendicular ice. Some fifteen steps—and they had to be deep enough to admit almost the full length of the leg—did I cut. Encouraging jeers came from above, but I had had enough and Pierre relieved me half-way down. We could not contrive a hitch for the rope, so he, amid my jeers, resumed the cutting till, after some fifteen more steps, we reached a spot whence a jump was possible if unpleasant. This was duly accomplished, and we landed on the far side of the enormous Schrund (50 mins.).

The rest of the descent over the gentle but rather crevassed Evettes Glacier, back to the admirable Refuge of that name, was quite uneventful. I discovered on this expedition that my companion considers it bad form to descend very steep snow backwards. Joseph Pollinger and I do not. The amount of time saved and also the margin of safety is remarkable.

Among other expeditions from Bonneval, the direct and almost unknown descent from the Albaron, over the N.N.W. cliffs above the Vallonet Glacier and down on to that glacier, is interesting. The route, a true chamois-hunter's, was discovered by old Blanc le Greffier, and is remarkably sensational and dangerous-looking. In reality it is comparatively easy and perfectly safe.

That beautiful mountain the Ciamarella I had the luck to ascend on two successive days, the first time that I have ever accomplished such a feat. I agree with Mr. Coolidge when he says that the view is about the finest in the Western Alps. Lloyd and Joseph Pollinger were my companions on the second ascent.

We moved to Pralognan later, and on July 25 made the ascent of the Aiguille de Lépéna, 3433 m. = 11,267 ft. Pierre had never been up the mountain before, and was very keen. A very full and picturesque account of one of its earlier ascents was given by Mr. Charles Meade in 'A.J.' xxii. 369-72, and I do

not propose to qualify his admirable account. The climb is very rarely made, and, judging by the cards on the summit, ours was about the eighth. Conditions and day should be equally perfect. If any snow remains on the broken ridge—really the left bank of the gully or funnel up which lies the only route—the mountain, or rather, its lower half, becomes from falling stones a veritable death-trap, and should be accomplished, as Meade did it, practically in the dark. In our case everything was bare; we left the Félix Faure hut at 06·05, reached the summit at 09·30, and had dawdled back to the hut by 12·50.

There are six or eight iron pegs in rather doubtful state in the funnel, but under our conditions, dry rock and no ice, they are unnecessary, at all events for a competent party wearing *Kletterschuhen*. As we had none, we found the said pegs more than useful. The funnel is exactly like a section of one of the *Mauretania*'s, perhaps 150 ft. high, perfectly smooth and practically perpendicular. We were able by making a traverse to avoid the lower half of it. It is one of the most repellent places that I know. Above it there is no difficulty, and the descent with a spare rope is quick and easy. My advice is, never touch the Lépéna save when absolutely dry and black. The Pralognan guides appear to have given up the practice of carrying some fifty to eighty pegs, inserting them in their prepared holes, and then removing them on the descent, as happened on the occasion of Mr. Meade's ascent. The ascent of the Lépéna is remarkable since, although I know of a possible one, no second route has apparently yet been found. The smaller Aiguilles to the W., called, I believe, the 'Pointes de Lépéna,' are too dangerously rotten, and their ascent appears to have only once been made.

Later in the season we moved off to the Mont Blanc range. No ascents of any particular interest were made; but on Mont Blanc itself, from the Aiguille du Goûter onwards, we encountered one of the worst storms imaginable, and our porter, a somewhat worthless specimen, was blown right over the Bosses ridge on the descent. Such was the strength of the wind, and the consequent tugging of the rope, that I, who was leading, never noticed his disappearance till brought up short by the rope. The easiest glacier that we crossed proved to be the Nantillons!¹

¹ As regards the N.-S. traverse of the Grands Charmoz, it is soothing to read that Mr. Geoffrey Young has also found the climb

In 1922 I went further afield than the Alps, and the season of 1923, after only two ascents, ended in tragedy.

You all remember the dreadful summer of 1924. Nevertheless, the month of July in the Ortler group provided not only fine but also excessively hot weather. Hearing of my plans, my courteous and charming friend Count Aldo Bonacossa met me at Milan station with his car, and motored me the same evening to Santa Catarina-in-Val-Furva, and I thus performed the journey in some nineteen hours from Paris, which must nearly constitute a record. I was more than grateful to Bonacossa (where is the friend who would lend his car for a 270 kilometre run ?), and still more so to Providence for my safe arrival. The driver was magnificent, and the speed and road equally appalling. The speedometer showed usually about 120 kilometres an hour. During the War I once thanked a distinguished Italian General in Macedonia for lending me his car, and spoke of the driver's skill. He only remarked : ' All our bad drivers have been killed.'

The worthy proprietor of the Stabilimento Santa Catarina received Pierre Blanc and me with enthusiasm, and, so far as my experience goes, food and prices on the Italian slope are respectively far superior and much less than in the French or Swiss Alps. I have always liked Santa Catarina and what used to be the Italian slope of the Ortler group. The peasants and visitors are charming, as Italians so frequently are. We made several interesting ascents, but perhaps, from a military point of view, the most absorbing one was a walk to the Passo di Gavia.² The fortifications and extent of barbed wire were truly remarkable, and the same applied to the whole extent of the Pizzo Tresero—Punta San Matteo ridge. We did this classic traverse on an extremely hot day, and it proved of more than pre-war interest.

Each peak is covered with fascines and gabions, while the reverse slope is provided with excellent huts, from most of which the foundations have now fallen, leaving them precariously perched. 'Téléphérique' cables abound, and frequently trip one up, while quantities of still live rifle cartridges, Italian and Austrian, litter the rocks. The slight difficulties of the great corniche forced us rather on to the steep S.W. face

up the first gendarme, with only two on the rope, a rather formidable undertaking. *A.J.* xxiv. 473.

² During the War a motor road, leading to Ponte di Legno, was constructed, and is in daily (and dangerous) use over this Pass.

of the San Matteo, and as we clambered up the ice and rock of this face I was attracted towards a great slab. Cut in large letters were the proud words 'Hoch Kaiser Karl!', the loyal thought of the gallant Tyrolese rifleman.

San Matteo was the scene of much skirmishing, which was all this 'peak' warfare ever amounted to, although mountain artillery and heavy howitzers were continually employed by the Italians, and even occasionally by the vastly outnumbered Austrians. As a general rule, throughout the Ortler, the Italian works, especially their sub-glacial galleries—those on the Zebbrù Glacier are in parts extant—are of the most elaborate kind, while the Austrians, with their few old but experienced mountaineers, wisely relied on natural defences alone. The statistics of the respective 'Alpine' accidents, if obtainable, should prove illuminating reading; I do know that the Tyrolese were quite negligible. This is a delicate subject, and I had better stick to our climb.

The descent from the San Matteo over the magnificent Forno Glacier was of surpassing beauty. The crevasses were of gigantic size, and many resembled circular caverns. The greatest care was required, and the full length of our 80-ft. rope was in use. I have heard British mountaineers declare that there are no glaciers or snow in the Eastern Alps. Well, let them visit the Ortler or the Oetzthal, even if the Zillerthal and Glockner lie too far afield.

Our descent eventually led us to the comfortable little Forno Hotel, the best mountaineering centre in the Southern Ortler. Nothing can exceed the kindness of the Buzzi family. They have many curious anecdotes of the War, notably an Austrian raid on the hotel, which, for the Tyrolese, was of a somewhat humorous nature.

We eventually crossed over to Sulden, and I was back in a part which I knew intimately more than thirty years ago. We traversed the Monte Pasquale and the Cevedale ridge, descending on to the Sulden Glacier by the historical Eissee Pass. (The new Italian names are quite beyond me, and, moreover, appear to vary daily.) Old times seemed to flow back when we caught up on the Sulden Glacier a family—father, mother, son, and guide, the former wearing in deep, soft snow enormous crampons and armed with prodigious poles. They were tied four feet apart, and whenever the guide was a little doubtful of the proximity of a crevasse he brought them up in line abreast with him to try a fall with Death. Pierre was delighted, and we strode past them, tied with the full length

of our 150-ft. rope (Everest 'line'). They gazed at us with admiration, and no wonder, since the sweep of our taut rope seemed to include most of the pinnacles of the glacier. Soon we caught up another party, tied two and two, six feet apart, guide leading. Truly, tradition among the second-class guides of Sulden still dies hard. The good men there will, however, bear comparison with most. Of such are the Dangls and Pinggeras of the past, or the present-day Pinggeras.

Adventures are for the adventurous, and on the mildest part of an inoffensive glacier they came—out of the blue. There was the well-known prolonged wail and whistle, followed by the splitting crash of H.E. bursting below the Königsjoch. Another shell somewhere on the Hinterer Grat, and yet another somewhere on the Tabaretta. Could this be a 'bracket'? No, not even with recruits. Then a deafening explosion about a hundred yards in front of us, snow and débris flying in a cloud, and two war-worn soldiers lying full-length behind a lump of ice, and worming their way to the boulders of a friendly lateral moraine.

'*Quel sacré feu d'harcèlement!*' said my companion with contempt, but stayed behind his rock. The summits of the Ortler and Königspitze remained immune; the rest of the landscape was unhealthy.

After some 250 rounds, shrapnel and H.E., the firing ceased, and we gingerly descended to the remains of the Schaubach Club hut. A young Italian gunner captain, acting as F.O.O., here appeared flourishing a large red flag.

'*Espèce de Bolchévik!*' exclaimed my companion, rushing at him. Then in fluent Italian he enquired of the officer why he had been shelling his Allies. A torrent followed:

'*Ce n'est pas lui, c'est son frère Manöel à l'autre poste d'observation,*' explained Pierre, pointing vaguely towards the Hoch Joch.

Thoughts of a private school, 'Please, sir, it wasn't me, sir,' came to my mind. I shook hands with the attractive Italian, and we parted in the friendliest way. My companion and I descended towards Sulden.

'Abominable!' kept muttering Pierre.

'Well, it is exactly what you and I would have said, Pierre.'

'*En effet, oui,*' and we smiled somewhat ruefully, for, after all, French artillery have never shelled the Mer de Glace, nor British guns the sandy heights of Blackpool beach. And yet a dozen deserted glens encircle the 'Conca di Sulden,' so why

choose the most frequented centre of the Eastern Alps for untrained gunners' practice, and in mid-July ?

We entered the floor of the valley and strolled towards the Sulden Hotel. Tourists of Northern European nationality streamed in front of us, making for Gomagoi and safety, while the offending guns entered simultaneously from the Zaythal. They were two mountain howitzer batteries of surrendered Skoda matériel, a good stamp of men and mules, all well equipped except for the gunners' boots. Our satisfaction at the stampede of the tourists was tempered by having to pass through the barrage of flies and smells arising from the 'stables' literally surrounding the hotel. Having already been too outspoken, I may as well add that officers and gunners vied with each other in civility to us and in explaining the effectiveness of their gun mechanism and telemeters. They were much amused at our having been under fire.

Enough of such frivolities, and of the fate of our two parties on the Sulden Glacier the communiqué is silent, although, as in Mafeking, a mule was killed.

Of serious mountaineering there did not appear to be much, but some idiot had just made the third ascent of the Ortler by the so-called 'Schüek Rinne.' His guides were still extremely angry at the dangers incurred ; they should never have consented to start, although times are hard and the tariffs, for those who have won the War, prodigious.

A blazing day followed, Sunday, July 13 ; it was embarrassing to encounter a kind of local deputation near the immemorial 'Eller.' Rumours of certain episodes in an undistinguished past attracted the former Tyrolese. They were loyal to their ancient traditions, and grateful to a Briton. The same feeling was obvious in other directions ; my bill was ridiculous, and but for my remonstrances would have been probably nil.

On the following day we started at midnight, Franz Pinggera accompanying us for 'auld lang syne.' At fearful speed he led us to the Sulden Glacier,³ to the great Cirque encircled by Königspitze, Zebrù, and Ortler. Lightning flared all around. We gave up the Hinterer Grat ascent of the Ortler and descent by the Hoch Joch ridge. Three times have I been on one, and twice on the other, and the latter, since the War, boasts almost of a path. Changes are apparent everywhere. The

³ Several fresh shell-craters were in the path below the ruined Baeckmann hut.

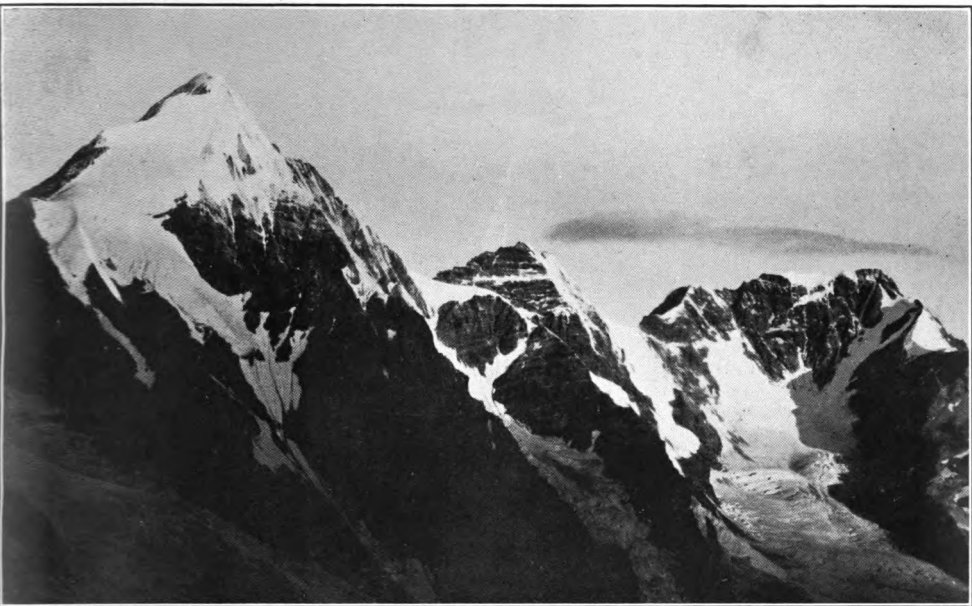


Photo: R. S. Morrish.

KOENIGSSPITZE,

MONTE ZEBRU, HOCH JOCH,
from the EISSEE PASS.

ORTLER,

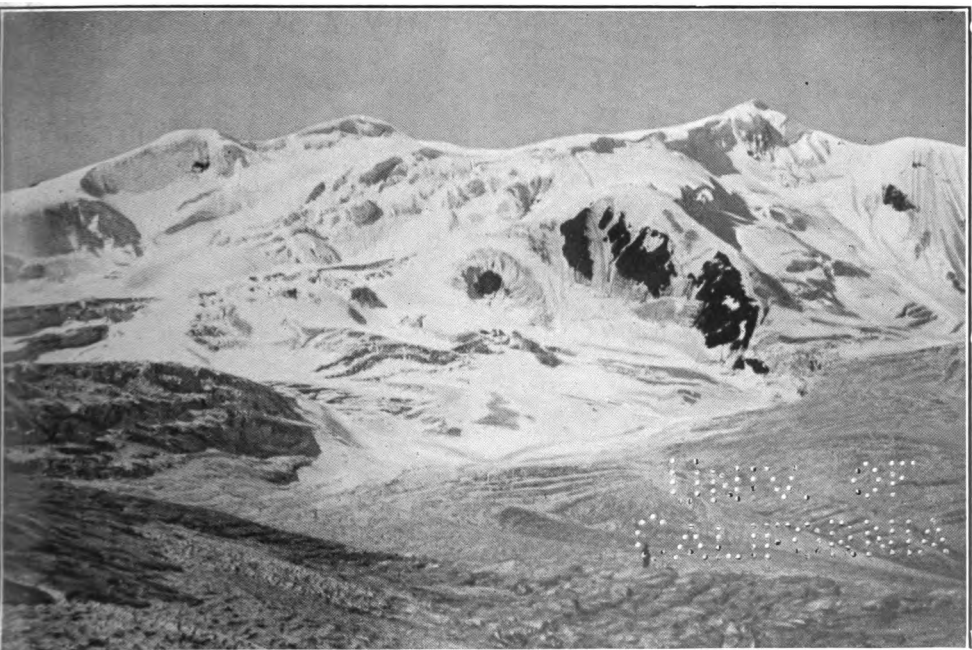


Photo: O. K. Williamson.

PUNTA DI SAN MATTEO
from Forno Glacier.

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70 1911
ABSTRACT

simple if steep ice or snow slope of 1893 and 1894, leading to the Hoch Joch, is a formidable overhanging mass of impenetrable séracs. The route lies far to the N., under the decaying crags of the S.E. extremity of the Hoch Joch ridge. The N.E. face of Monte Zebrù, up which Miss Beatrice Tomasson (now Mrs. Mackenzie,⁴ and one of the best lady climbers of her day) and her dauntless guides forced their splendid way in 1898, lay gaunt and unassailable. Stones growled freely down 'Harprecht' and 'Minnigerode' gullies of Ortler's flanks. The ice-fall below the Sulden Joch, up and through which Joseph Lochmatter once led me faultlessly in 1903, was utterly hopeless. Universal wastage, universal shrinkage.

We turned to the Hoch Joch, Pinggera in front, Blanc in the middle, and myself in the post of dishonour. The pace was tremendous, and there was cause. Dawn was breaking, and the glacier was pitted with rocks. By a horrible avalanche track, hard frozen, dreadfully rotten, not easy rock of true Ortler characteristics, finally a traverse to the left, S., across almost perpendicular ice, and by a similar corniche or wall, the pass was reached (4 hrs. 10 mins. from Sulden). The wind was high, and as we sheltered on the Hoch Joch Grat, high above the shelled ruins of the hut, we beheld avalanches of stones descending on to our route, surely now the most dangerous pass of any that I have seen. The day became no worse; we reversed, and I led by easy slopes to the summit of Zebrù (20 mins.) with its perhaps incomparable southern view.

We descended gently to the Ortler Pass, traced the new war-path up Thurwieser's shattered S. flank, and viewed its once peerless eastern knife-edge ridge, now sadly shrunk into a wall. Beyond lay the crumbling Baeckmann Grat of 1894 memories, and Trafoier Eiswand, whence Austrian stormers destroyed all living souls on Thurwieser, only to meet a similar fate the following night. . . . *Vae victis!* All these were before me and my Tyrolese companion. It was bitter indeed for him.

Down the long Zebrù Glacier to the Capanna Milano with its marvellous camouflaged encampments and traces of war, and so finally to the mouth of the lengthy Val Zebrù at San Antonio. Here I parted from worthy Franz—best of shall I call them 'Eastern Alpine' guides?—while Pierre and I turned

⁴ Mrs. Mackenzie, with the guides M. Bettiga and B. Zagonel, on July 1, 1901, accomplished the first ascent of the S. face of the Marmolada.

to my mountain lodestar, the granite rocks, the sparkling falls, and wooded depths of Masino and Val Bregaglia.

The best handbook ⁵ by far for the Ortler range is that published by the C.A.I., and written by Count Bonacossa. It came out early in 1915, and must have been invaluable to the Italian G.S.

A very good map ⁶ of the Suldén Valley and its surrounding peaks has also been issued by the Military Topographical Bureau, Florence. The scale is rather too large, 1:25,000. The old Tyrolese names appear, most fortunately, in brackets under the new Italian ones. I believe a similar map is in preparation of the Trafoi valley.

I am very grateful to Messrs. Withers and Morrish for the loan of their beautiful slides.

THE SCHMADRIJOCH.

(From the late Sir Edward Davidson's Notes.)

Saturday, September 21, 1895.

LEFT Trachsellaunen at 4.35 A.M., accompanied by the landlord of the inn, who wished to go up to the chalets of the Breitlaunen Alp to look after some sheep, goats, and herdboys he had up there. We put out the lanterns at 5.30 A.M., and reached the upper chalets of the Breitlaunen Alp at 6 A.M., where the landlord left us. We then traversed over very decent slopes, crossing the Schmadribach high up and reaching the moraine at 7 A.M. Later on we stopped at some water to breakfast from 7.40 A.M. to 8.20 A.M. We then reached the ice; went up a narrow couloir next some rocks on the right, down which water was running plentifully between the rock and a casing of ice which was, of course, transparent and let one see the water running down behind it, producing a very curious effect. Above us at this time was a hanging glacier, under whose range we remained for about ten minutes. This was immaterial in the early morning, but might have been less agreeable later in the day.

As soon as we had got up this couloir or gully we traversed to

⁵ *Regione dell' Ortler.* Milano. 1915.

⁶ *Carta della Conca di Suldén,* 1923.

the left, over an ice and snow slope, to the rocks running down from the Grosshorn ridge. We followed these some way, and then had to take to the ice on the right of the rocks, keeping close to them, however, all the time. Here we had a good deal of step-cutting.

At 11.30, just about two-thirds of the way up these rocks, we stopped at a convenient place until 12 o'clock (noon) for a second meal. Then more step-cutting, with Rudolf¹ leading—a short traverse over nasty rocks of a ledgy character over which there was barely enough ice lying to permit of secure steps being cut—and we landed at 2.10 p.m. on the upper glacier plateau immediately beneath the col, and lying in a cirque bounded on the one side by the Lauterbrunnen Breithorn and on the other by the Grosshorn. We traversed quickly across to the right, mounting at last up an easy snow-slope to a well-defined notch in the ridge forming a sort of narrow gateway between two crags standing up on either side out of the (mixed) snow and rock ridge. We reached the col at 2.45 and remained on some rocks on the S. side of it, eating and enjoying the view, until 3.30 p.m.

We then descended by easy rocks for some distance, though it was evident that access to the glacier was barred almost all along the line by steep cliffs from 50 to 200 ft. high.

We eventually, after looking about a good deal, had to get down over some smooth rocks down which a small waterfall was flowing, and had to double our spare (60-ft.) rope over a *saillie* of rock for greater security in so descending. In this way we got pretty well wet-through, as we had to shin down some smooth slabs on hands, knees, and elbows. In ordinary years, however, I have no doubt that such disagreeable manœuvres would be unnecessary, as the glacier would come much higher up the rocks, and probably the bergschrund would also be bridged by practicable bridges. Old Almer wanted to leave our extra rope, but against this wanton sacrifice I, and also Klucker, most energetically protested. We therefore tied the ends together in a safe knot, so as to make an endless loop of the 60-ft. rope, and passed our own 100-ft. rope through the noose, unroping ourselves and going down one by one, by which means we got about 90 ft. of rope support down the rocks. When we had got down to the snow-field we violently agitated the lower rope, and by this means jerked, after several trials, the upper rope

¹ [The guides were Christian Almer himself, his son Rudolf, and Christian Klucker.]

off the rock *sailie*. We kept on the extreme right (descending) of the glacier, and by this means avoided almost entirely those parts of it which were not covered with snow. Usually, I fancy, the descent could be made either pretty straight down the centre or by going over the slopes to the left, near the Anen-Grat; but this year such a course would have involved an enormous amount of step-cutting, as the glacier was, except on the right, almost entirely divested of its usual snow covering. We got on to the moraine on the right of the glacier at 5.50 P.M., stopped here twenty minutes to drink water and to make lemonade with Whympers's fruit-kali, and then went on, over slopes of 'schutt' interspersed with scanty grass and occasional slabs, by an ill-marked sort of shepherd's path which winds along the right side of the moraine-covered upper valley, at a height of some 300 ft. above the stony waste by which the valley itself, from the snout of the glacier to the place where the upper Lötschthal path is reached, is covered. After about forty minutes of this level traverse we found it necessary to descend on to the stony waste—at a place called the 'Heimischeggen' on the Siegfried-Atlas map—and after about twenty minutes over the boulders we got on to the hillside on the right again, whence a very short descent took us down to a path at the head of the Lötschthal which was here, and for some distance down the valley, very well marked. It was now just 7 o'clock, and the light was beginning to give out; however, we went on for twenty minutes more before it became necessary to light the lanterns. The point where we struck the path is near that marked 2182 in. on the map. Soon after we 'lighted up' the path began to go through bits of alpine meadow and to disappear at intervals among thick rhododendron bushes. We speedily lost it—no doubt by keeping too low down—and stumbled about for 1½ hours in the most annoying and tiresome way. At one time I thought we should have had to sleep out in the woods above the Gletscherstafel. However, we eventually reached the chalets of Gletscherstafel and the church (which was lighted up inside, though there was no one in it) at 9.20 P.M., having stopped *en route* for about fifteen minutes at a spring of good water flowing out of moss-covered rock. We reached the village of Blatten at 10.50 P.M., and the Hotel Nesthorn at Ried (Schröder *propriétaire*, vice Lehner) at 11.10 P.M. Old Almer² was, I think, rather tired—but not much more so than I was—after this fatiguing day of 18½ hours!

² [He was nearly 70.]

TWO SEASONS IN THE WESTERN AND CENTRAL GRAIANS.

By J. O. WALKER.

TO the climber of modest ambition and wandering tendencies the districts of the Tarentaise and Haute Maurienne offer many attractions. There are still to be found quiet backwaters, untouched by the great stream of touristdom, and in these mountain recesses climbing is available, not first-class, perhaps, but of sufficient interest to satisfy most tastes. Many of the peaks possess the double advantage of symmetry and isolation, and are very beautiful; the lower country is broken into an intricate network of valleys and passes which give endless scope to the mountain wanderer.

As a rule the climbs are fairly short and easy, and one may loaf long hours on the tops, enjoying the glorious views. The district is not a great deal visited by English climbers, and it is some time since an article on the subject appeared in the JOURNAL. This, and the command of the Editors, must serve as excuse for recording our few very commonplace doings.

At the beginning of August 1923 the motor-bus from Moûtiers decanted us at Pralognan. Hadfield, Budenberg, and I had travelled straight through from London; J. W. Brown had arrived some days in advance. We had made no plans, and as none of us had visited the Péclet-Polset group we decided to start in that direction.

The day was hot and the track up the Polset Glen was long, with the steep bit at the end. Everyone knows the struggle of the first hut-grind of a season. But the Refuge Péclet-Polset made amends. It was up to the best standards of the tenanted chalet-refuges of the C.A.F., and that is saying a great deal. Next morning broke dull and drizzling, but, in obedience to a golden rule, we decided to start for the Aig. de Polset. Our route was the obvious one, up a convenient and fairly steep buttress of rotten rock to the edge of the Gébroulaz Glacier, which we struck high up. Crossing the glacier and some slopes of névé we climbed the small rock arête to the top, reached in some 3 hrs. going from the hut. The weather still left much to be desired. A chilly wind drove masses of cloud around us, but occasional rifts gave bleak glimpses of the Dauphiny peaks, and in the opposite direction the Dent Parrachée and the great snowfields of the Vanoise. We debated whether we should

continue to the Aig. de Péclet—the two peaks may be made easily in one day—but the conditions of wind (our wind) and weather vetoed the idea. So we descended by the orthodox but circuitous route down the Gébroulaz Glacier and round the little Lac Blanc. On the slopes above the tarn great masses of edelweiss grow and other Alpine plants in surprising variety. The district is famous for its flora.

Next day we strolled up to the Col de Chavière, a short hour from our chalet, and enjoyed a lovely view over the intricate ridges about the Mont Cenis to the distant cone of Monte Viso.

Across the valley from the Polset Chalet rises the fine-looking Pte. de l'Echelle, challenging attention. The weather now seemed quite settled, and we decided to tackle it on the way to the Dent Parrachée, which we were all very keen to climb. Engaging the guides Jean Baptiste Vion and Jean Louis Vion to supply local knowledge we left our hospitable chalet with regret. The route lay across the foot of the Glacier de la Masse, then up easy rocks to the Col de la Cré-de-la-Roa, an insignificant gap in the ridge which runs N. from the Pte. de l'Echelle. This ridge looked amusing and can, I believe, be followed direct to the summit. The guides preferred to traverse round the head of a desolate corrie, and to attack the steep N.-E. face, which was climbed with surprising ease. The summit of the Pte. de l'Echelle is a narrow crest broken into great rock pinnacles. Unfortunately, the rock is not entirely reliable. To the S.W. a huge, smooth slab runs down to the Aiguilles de la Partie, first climbed a few years ago by Mr. Meade and Pierre Blanc. The weather was superb and we rested long and lazily till old Jean Baptiste produced his invariable formula for getting a move on—'Look round and see that you forget nothing, above all your penknives.' We soon learned that with this there was no arguing. On the way down our botanist found a pretty blue forget-me-not, which he labelled—I nearly wrote libelled—*Eritrichium nanum*.

From the foot of the peak we turned to the right down the corrie and past the Chalet de Fond set in its pleasant meadows, till in the late afternoon we reached the Chalet Fournache, where we were to spend the night. The quarters were primitive to a degree: they fed their pigs through the cracks in the floor. But our hosts were kindly and obliging, our invariable experience in these parts.

The programme for the following day was the Dent Parrachée, returning to Pralognan. The guides urged an early start, and

we got off before 8 A.M. under a clear sky brilliant with stars. Keeping well to the left we climbed grassy slopes and a subsidiary ridge to the Col de l'Arpont, avoiding the wide couloir of scree to the S. of the col. Easy rocks took us to the lower summit, which to the S. falls away in a wonderful sheer cliff. Then a sporting snow arête leads to the higher top, which was reached just before 8.

The Dent Parrachée, being an outlier, is a glorious viewpoint, and it possesses a commodious top well suited for a long stay. The first hour passed very pleasantly, and we were settling down to a second, when Jean Baptiste stood up and said his little piece about penknives. So we packed up, and returning to the col scrambled down to the Glacier de la Dent Parrachée. This we contoured high up hoping to cut a corner by traversing under the Pte. de Labby. Like most short cuts it proved the longest way home, and all across the grain of the country. Probably the best route is the circuitous one by the Col d'Aussois, which the guides wanted to take. Our topographical researches involved us in the worst, and it was early evening before we tottered into Pralognan with our tongues hanging out.

In 'Peaks and Pleasant Pastures,' which deals so delightfully with this district, the author tells how, starting from the distant Col de la Vanoise, he walked the length of the Vanoise snowfields, climbed Dent Parrachée, and returned to Pralognan in time for dinner. Those were the days of giants.

After an off-day at luxurious Pralognan we walked up to the Refuge Félix Faure on the Col de la Vanoise. This is the fashionable centre of the Tarentaise, and is much frequented by French climbers. Though apt to be crowded it affords climbing of every variety and difficulty from the simple snow-slopes of the Dôme de Chasseforêt to the desperate cliffs of the Aig. de Lépéna.

From here we climbed the Grande Casse, a fine peak and a nice climb, though in this dry season of 1923 it showed more scree than is permissible in the best circles. The last slope was ice and needed care.

After the Grande Casse we said good-bye to our guides, good fellows both, and next morning started for the Grande Motte and Val d'Isère. Traversing the stony wastes of the Vallon de la Leisse by candlelight we reached the Col de la Leisse as day was breaking. From the summit of the Grande Motte snow slopes and glacier sweep down almost to the pass and offer easy access. When the slope steepened we took to the rocky E. ridge, which was followed to within some 200 ft. of

the top. In normal condition this final slope is quite simple and may be climbed in 20 mins., but this year it was mostly ice and involved step cutting for $1\frac{1}{2}$ hrs. The summit was a fragile affair of crusted snow and icieled cornice, beautiful to look upon, but precarious as a stance. We halted only long enough to take off our hats to Mont Blanc and to mark the long E. ridge of the Grande Casse, which, from here, takes on the novel aspect of a perfect cone. Then making a quick return to the Col de la Leisse we bore to the right over the Col de Fresse and down by rich pasturelands to Val d'Isère.

Val d'Isère is well known to English climbers, and still retains its old-world charm in spite of motor-charabancs and trippers. A somnolent off-day was spent in the pine woods above the village, and on the following afternoon we walked to the Sassièrè Chalet at the foot of the Grande Sassièrè. The chalet was already crowded with a large and cheerful party of French tourists, and we were shown, with many apologies, to the stable. The prospect at first blush was rather overwhelming, but Madame promised to clean it out, and proceeded to do so with a spade and wheelbarrow. There was plenty of clean hay, however, and we found that by lying flat we could dodge the worst of the bouquet. Our bed-fellows were a cow and calf, two goats, and a row of sleepy hens.

The Aiguille de la Grande Sassièrè has a sounding title, and is a fine upstanding mountain attaining the respectable height of 12,323 ft. He is, however, something of an impostor, and his top may be reached by the simplest of walks. But the shortcomings of the climb are forgotten in the glories of the view. Mont Blanc looks superb; the great shining dome is seen as though from the dress circle of a theatre, with nothing of any height intervening, comparable to the view of Kanchenjunga from Darjeeling.

The French tourists had left when we got back, and for the second night we were promoted to the luxury of the chalet loft.

At the head of the valley rises the beautiful peak of the Tsanteleina, our objective on the morrow. It proved a delightful day. A pleasant walk over grassy uplands brought us to the Col de la Bailletta, whence we traversed a wilderness of boulders to the foot of the Glacier du Quart. This was climbed to the Col Bobba, and a short rock scramble took us to the top without difficulty.

In all our summit views we had been intrigued by a snowy range lying S.W. of the Levanna. The map indicated Ciamarella, Albaron, and other attractive names, but to most of us it

was *terra incognita*. With the idea of getting a glimpse of the group we walked over the Col du Mt. Iseran to Bonneval, taking the Signal du Mt. Iseran on the way. From Bonneval we mounted to the Chalet-refuge des Evettes, and were surprised and delighted at its superb position. An attempt on the Albaron next day was defeated by bad weather, and being already overdue at the Montanvers we could spare no time for a second try. But our fleeting glance of the district had decided us to return at the first opportunity.

The following year, at the beginning of August 1924, W. S. Sharpe and I left the train at Modane and drove up the spacious valley of the Arc to Bessans. The day was perfect, a rarity this season, and as far as Lanslebourg the historic Mont Cenis road was followed, past the old frontier forts perched on their rocks, picturesque but obsolete. At the little Hôtel Cimaz at Bessans we found J. W. Brown awaiting us. The valley was full of Chasseurs Alpins on summer manœuvres, and all was bustle and activity.

From Bessans we walked to Avérole, where the C.A.F. have a tenanted refuge. It is modern and well built, but in the matter of catering was found wanting. It is only fair to add that the presence of troops in the valley below made the maintenance of supplies unusually difficult. After two days the question of commissariat became urgent, and we held a council of war with the custodian. A diet of cheese and red wine was good, but we craved strong meat. Half in jest we pointed to a flock of sheep on the hillside. 'Would he sell us a lamb?' 'But certainly,' he replied; a bargain was struck and plenty reigned in the land.

From the Avérole Chalet the most popular climb is the Bessanese, a fine, triple-crested rock-peak rising on the frontier. In threatening and misty weather we started for it on August 3. A rough scramble by the side of a cascade brought us to the Glacier d'Arnes. This was followed till the cliffs on our left broke down into long slopes of scree, up which we struggled. We were now on a lofty terrace under the rocky ridge of the frontier called the Roches Pareis. To the W. misty glimpses of the Pte. de Charbonel were seen across the gulf of the Vallon de Lombarde. Long, easy snow-slopes led us to the foot of the steep, final cliffs of the Bessanese, from which we were separated by a steep and dangerous-looking couloir. The safest route lies to the right, up a buttress of sound rock till the main ridge is gained. The final peak looks difficult, but after

the first steep slabs are climbed with the help of abundant holds the slope eases off and simple hand and foot scrambling takes one to the top. The S. summit, on which we stood, is called the Pte. Tonini, and on it is a statue of Notre Dame de Lourdes. The central Pte. Baretta is a few feet higher, and is reached by a sensational traverse. Under the conditions—the mountain was plastered with new snow—we decided to stop where we were. Unfortunately, the weather was cold and cloudy, with occasional showers of sleet. But we got glimpses of the fine serrated summit ridge, while a break in the cloud now and again revealed the Refuge Gastaldi far below, and the blue valleys of Italy.

During the descent I clumsily allowed my axe to slip off my wrist and it clattered away out of sight down a couloir on the Italian side. Some complicated climbing followed and I managed to reach the spot at the end of a long rope. There I found not one axe but two. My axe was lying across another broken one of antique design. Dropping axes seems to be a habit on that part of the mountain.

Unsettled weather put a stop to all climbing for two days, then on a brilliant morning we started early for the Pte. de Charbonel. The Pte. de Charbonel is reputedly an easy mountain, but we made a sad hash of it, and were defeated horse and foot. A long spell of collar-work up steep grass brought us to a delightful corrie high up under the cliffs of our mountain. Thence we climbed scree, broken rock, and a tiny glacier to the Col de l'Ouille Mouta. A traverse to our right over more scree led to the foot of the S.-W. ridge, which was accessible, we had read, by a 'concealed and earthy chimney.' Here the fun began. We delved in many chimneys each more earthy than the last, but none of them taking us anywhere. Finally, a way was forced up steep slabs of dangerously rotten rock to the ridge. We had fondly imagined that once on the skyline our job was practically done, but our hopes were premature. The ridge was steep and narrow, and a series of great rock-towers of amazing instability intervened between us and the top, which was still a good 500 ft. above us. Climbing the ridge was like a glorified game of spillikins, and we were relieved when a rib of sounder rock enabled us to beat an unprecipitate retreat to the screes below.

Much time had been wasted, and a suggestion to traverse round to the easy-looking S.-E. ridge met with little support, nor did anyone seem keen on renewing the search for the reticent chimney, the cause of our discomfiture. To the

guideless climber a little knowledge may be a dangerous thing. Returning to the col we rested and smoked, then as a sop to our peak-bagger, we climbed in a short hour the little peak called Ouille Mouta, which affords an interesting view of the famous Roche Melon and the mountains of Mont Cenis. In the late afternoon we straggled down to Avérole after an amusing but not very successful day.

Leaving Avérole the following morning we went to Bonneval, where we found C. F. Budenberg and his sister awaiting us. Bonneval, as most climbers know, is a charming spot and a splendid centre. The comfortable chalet-hotel of the C.A.F. is now managed by a Chamoniard, M. Tissaz, and his brother runs the Refuge des Evettes, 2 hrs. higher up. At both places we were received with the greatest kindness and fared sumptuously. Just as we were sitting down to lunch an English voice was heard without. To our mutual surprise in walked Unna, bearing tidings good and ill. His party was laid up with influenza at a chalet far up the valley; on the other hand their guides, Pierre Blanc and his son Alphonse, were temporarily at a loose end. We were sorry for the cause of it, but seized our luck with alacrity and had three splendid days in Pierre Blanc's cheerful company. Walking up to the Refuge des Evettes the same afternoon we climbed the Albaron next day by the ordinary route under the Pic Regaud and along an upper shelf of the Evettes Glacier to the Selle d'Albaron, whence an easy arête runs direct to the summit. The climb was without difficulty, but always interesting, and gave us particular pleasure in view of our bad weather defeat the previous day. From the top Pierre pointed out the sights—the wicked-looking ice-slope of the Col de Chalanson, first descended by Col. Strutt and him, and an eccentric ascent of the Ciamarella¹ made with Captain Farrar years ago. Starting from Bessans they struck up the Avérole Glen, ascended Ouillarse and Albaron, and followed the main arête, mostly snow, to the Piccola Ciamarella and the Ciamarella itself. Pierre Blanc's point of view and criterion of difficulty amused us. 'Is that ridge yonder difficult, Pierre?' 'Oh, no, it is easy; I

¹ [July 24, 1902.—Left Bessans 1.50; top Ouillarse (big cairn) 7.20–7.40; next rock summit on ridge (big cairn) 8.17–8.22; Albaron (cairn) 8.58–9, summit 9.6; Col below Ciamarella 12.30–12.35; Ciamarella (iron cross) 1.7–1.17 (misty and snow); back at Ccl 1.38–1.45; Col des Evettes 3.30; Bonneval 5.15. *Note*.—Both points of Ouillarse—3341 and 3477—were ascended.]

climb it with two chamois.' 'And that other ridge?' 'Ah, that is not so easy; I only carry one chamois there!'

The second day was devoted to the Punta Mezzenile of the Roc du Mulinet, a delightful climb on sound, honest rock, with one or two sporting pitches. On the Italian side the mountain falls in one sheer cliff to the head of the Forno Valley, an impressive sight. There was cloud on the summit, but it was quite thin and we got interesting glimpses of the long summit ridge, the complete traverse of which is, perhaps, the best climb in the neighbourhood. On the way down beautiful views appeared across the valley with that interplay of light and shade which makes a cloudy day so delightful on the mountains.

The third day broke gloriously fine, and we climbed the Ciamarella by the customary route, over the Evettes Glacier and the Col Tonini. The bergschrund, which some years gives trouble, was easy this wet season, and Pierre and Alphonse made short work of the ice-slope above it. Climbing a buttress of loose rock we gained the backbone of the mountain, and an arête—part snow, part scree—was followed to the top. The view was magnificent and all the Pennine giants were visible from Mont Blanc to Monte Rosa. Nearer, the Paradis group was prominent and the black-walled Grivola, while across the deep Val de Balme rose the cliffs of the Bessanese, backed by the distant peaks of Dauphiny. To the S. the top of Monte Viso, and even the higher crests of the Maritimes, were seen above a sea of cloud.

As we lay in lazy contentment enjoying this wonderful prospect we tried to get Pierre Blanc to talk about his recent visit to the Welsh hills. The feature which impressed him most was their wetness, and he could not understand what bogs and morasses were doing on mountain tops. He had little to say about the Devil's Kitchen climb, except that it was short, but he admitted that he would not like to carry a chamois up it.

Racing back to the refuge we spent the remainder of the day lounging around the rock-pools, which are such a charming feature of the place. Pierre and his son returned to their rightful party the same evening, and next day we descended to Bonneval. We had enjoyed three consecutive days of climbing-weather, the only reasonably settled spell of the season, and we were fortunate enough to get a good climb on each of them.

The rest of our holiday is a mere record of wettings and disappointments. On a promising morning we started early for the Eastern Levanna, but were overtaken by bad weather at



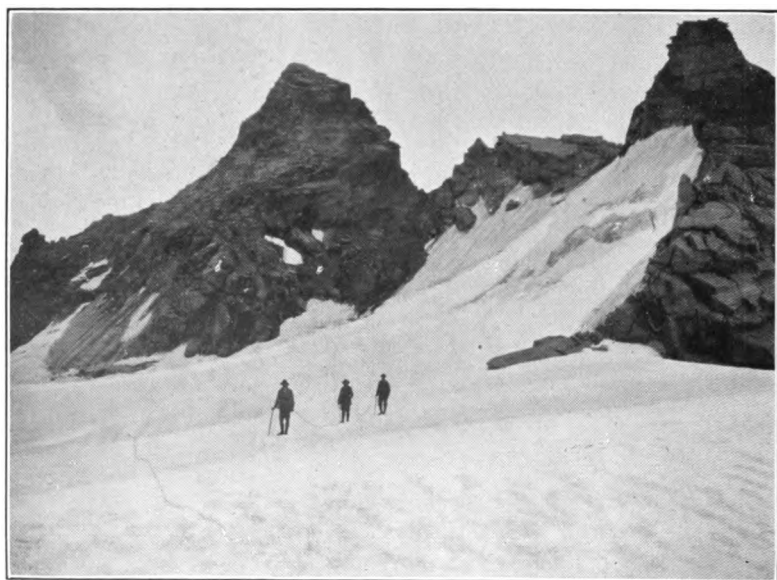
GLACIER DES EVETTES
with Ciamarella, Piccola Ciamarella and Col de Chalanson.



THE ALBARON
from Mont Sėti.



THE TSANTELEINA
from Sassièrè Chalets.



PUNTA MEZZENILE (ROC DU MULINET).

the foot of the Glacier des Sources de l'Arc. Through mist and blinding snow we felt our way to the Colle Perduto, but farther progress was out of the question, and we returned to Bonneval without a dry rag between us.

Three of our party now returned home. The remaining two, tempted by a fine afternoon, trudged up the valley again to the Chalet de Léchans, where we spent the night. The sunset was glorious, and the sky was without a cloud when we started next morning for the Western and Central Levannas. But before long it clouded up again and flakes of snow began to fall. The weather grew steadily worse, and when we reached the top of the Western Levanna, a mere walk, there were two inches of fresh snow on the rocks. The arête to the Central Levanna was not inviting, and we returned across the glacier to the Col du Carro path, steering by compass through very thick weather. A short distance below the col a new chalet-refuge is being built by the C.A.F. on the lines of the Félix Faure and the Refuge des Evettes, though it can scarcely compete with them as a climbing centre.

The district is rapidly being developed, or spoiled, according as one looks at it. Still another chalet-hôtel is under construction on the Col du Mont Iseran in anticipation of the motor-road over the pass, projected by the P.L.M. Company. The new refuge may prove a convenient port of call for thirsty motorists, but as a climbing base it is negligible and redundant. The road over the pass will prove a big and costly undertaking, and local gossip indicated that its construction had been postponed *sine die*. It is to be hoped this may be so. There is nothing to prevent the most aged and infirm walking over the pass or riding on a mule, and the whole charm of the district lies in its primitive simplicity and its atmosphere of remoteness.

On August 18 the weather improved, and a wave of optimism took us over the pass to Val d'Isère to join W. A. Wright and his two Chamonix guides in an attempt on Mont Pourri. Our attempt got no farther than the Hôtel Parisien. The mountain was in such a condition that the guides rightly declined to start for it.

Time was getting on, and our holiday in danger of fizzling out like a damp squib, so we decided to try farther S., and had the great good luck to snatch Monte Viso on a brilliant day sandwiched between two snowstorms. A visit to Courmayeur proved ineffective owing to persistent snowfalls. Even the Col du Géant was closed to traffic. So we returned over the Little

St. Bernard to Bourg St. Maurice, still hoping for Mont Pourri. But the mountain would have none of us ; so we threw our hand in and went home.

NOTE.—The maps of the district, which the French authorities allow to be published, leave a great deal to the imagination, and the only Italian maps we could procure were on too small a scale to be of practical use. The maps in the *Guide Bleu : Section Savoie* (Hachette) are excellent and the letterpress informative. Mr. Coolidge's 'Ball,' of course, is indispensable as always. Gaillard's *Climbing Guides : Alpes de Savoie* (Dardel, Chambéry) are very thorough, and contain useful diagrams of the various groups.

'THE GREY TWINS.'*

By E. L. STRUTT.

Piz Badile.

WITH the accomplishment, on August 4, 1923, of one of the remaining problems in the Alps, the great 4000 ft. N. face, the Piz Badile, is deserving of a paper by one of its most fervid admirers.

Piz Badile¹ (= the 'Shovel'), 3311 m. = 10,863 ft., *S. map*, for all its apparent lack of height, has no rivals, as a great rock mountain, in the Bernina, and but few in the Alps. Its appearance from all directions is striking in the extreme, while its amazing N. face constitutes as sheer a precipice of smooth unbroken granitic slabs as it is possible to conceive.

This great mass, together with its neighbour Piz Cengalo (3374 m. = 11,070 ft., *S. map*), are by far the most imposing objects from St. Moritz and the 30 miles distant Upper Engadine.

Piz Badile may roughly be described as consisting of two

* The title is taken from Mr. Freshfield's classic article, *A.J.* xvii. 419-29, and 'Below the Snow Line,' p. 180. I am confident that Pizzi Badile and Cengalo will *not* be mistaken for the unimportant Pizzi GEMELLI, 3259 m., *S. map*, lying to the E., which, in reality, constitute but a single summit.

¹ For the different names and heights borne by Piz Badile see *Climbers' Guide*, 'Bernina,' part i. pp. 22-3, compiled by Mr. Coolidge.

faces, N. and S., and two arêtes, E. and W. The S. face, grotesquely misrepresented on all the official maps,² is divided by a great buttress into two slopes, S.E. and S.W., while the 4500 ft. high ‘Sassfurà’ rib or buttress is really the sharp edge which separates the immense N.E. and N.W. precipices constituting the N. or Bondasca face.

Accordingly, following Ball and the old authorities, I refer to the North *face* in preference to the North *buttress*, since, from most points of view, the buttress is so merged into the vast face that it becomes barely noticeable.

The numerous guide books published give full details of the various routes now followed (up to 1922 as regards the latest, the S.A.C. *Guide*³—an admirable work). It suffices to state here that these routes are now four in number, corresponding to the mountain’s arêtes and faces, and that none of them, save perhaps the S. face, and then only when in first-class condition, are easy.

A few slight and not important ‘variations’ also exist.

Christian Klucker, of Sils-Fex, Upper Engadine, was leading guide⁴ in the first ascents by the W. and E. arêtes, and I would here signify my grateful indebtedness to him for his assistance towards this paper.

The writer has ascended or descended the mountain by three of these routes, on one of which he was even guilty of a rather horrible variation.⁵

1. As all the world knows, the first ascent of the mountain was made by its *S. face*,⁶ and was accomplished most appropriately, by the Rev. W. A. B. Coolidge with the Chamonix guides, François and Henri Dévouassoud, on July 27, 1867.

² It is good news that the new sheets of the *Siegfried Map*, Nos. 520 ‘Maloggia’ and 523 ‘Castasegna,’ are practically completed. ‘Castasegna,’ which Klucker tells me is a superb bit of cartography, even on the *Italian* slope (!), should be on sale before the 1925 climbing season. The old sheets, 520 and 523, are unworthy of the best ‘Mountain’ map yet produced.

³ *Clubführer durch die Bündner Alpen*, vol. iv., by H. Rütter, with the assistance of Christian Klucker (Sauerländer & Co., Aarau, Switzerland).

⁴ As well as in nine-tenths of *all* first ascents in the whole Bregaglia.

⁵ *A.J.* xxv. 10.

⁶ Why this route is now called the ‘Via Lurani’ by Italians passes my imagination. The ‘Via Coolidge’ cannot be 20 ft. distant—at any spot—from the former!

Mr. Coolidge's route is the one followed by 90 per cent. of modern climbers :—

From the Badile Club Hut mount debris and snow to the foot of the S. buttress of the mountain; climb on to this buttress by a diagonal shelf running N. to S. and situated on the W. side of the buttress; pass on to the E. slope and 'climb by easy flowery ledges' (and a short abrupt chimney) 'to the crest, and keep under this on the E. side by ledges sometimes narrow and overhung, but nowhere difficult. The ledges broaden out as the angle between the buttress and the main mass of the peak is approached. Here there is a choice of routes. The trough in the angle is the most obvious and, when not icy, probably the easiest. The last climb to the great tooth of granite that dominates the crowning' (E.) 'ridge is comparatively simple' ⁷ (2½ hrs.).

2. Piz Badile's very steep W. *arête* is again more the blunt edge of the N.W. and S.W. slopes than a true ridge. It is splendidly seen from the top of the Cima Sant' Anna (Badilet). The ascent is very stiff and exposed :—

From the Badile Club Hut steer for the foot of the obvious Colle (Forcola) del Badile; mount a very steep gully and steps, and attain the watershed rather higher and to the E. of that depression. Follow the W. *arête* till an impossible tooth forces you to make an exposed and difficult descent followed by a traverse over the great N.W. precipice. Regain the *arête* above the tooth and soon climb an usually snowy gully and steep chimney to the W. end of the summit ridge (5 hrs.). A spare rope is more than useful.

3. The E. *arête* ⁸ is very sharp, high, and well-defined. It is a fine climb and the edge of the *arête* should be strictly adhered to. At its E. extremity is situated an abrupt double-pointed tower, known by Italians as the Punta Sertori, ⁹ 3198 m., *Lurani map*. From the summit and W. *arête* of Piz Cengalo this ridge is especially striking :—

From the Badile Club Hut go nearly as far as the Colle del Cengalo, then take a ledge on the S. slope of point 3198 m. and so turn that tooth. Gain the depression between 3198 m.

⁷ The part included in the inverted commas is taken from Mr. Freshfield's admirable description, *A.J.* xvii. 427.

⁸ See illustration *A.J.* xxv., facing p. 10.

⁹ See illustration *A.J.* xxvii., facing p. 411. On fine Sundays in July or August dozens of young Italians will be encountered frolicking about its steep slabs and chimneys.

M. Zocca
 Sciara Peaks
 C. dell'Albigna
 Central Ferro
 Ferro Pass
 W. Ferro
 Bondo Pass
 P. Gemelli
 C. del Gemelli
 } P. Cengalo
 3307-3374 m.
 C. del Cengalo
 3198 m.
 P. Badile
 C. del Badile
 P. Badilet (S. Anna)
 N. Porcellizzo
 P. Porcellizzo



Photo: J. J. Withers.

FROM THE NORTH.
 3214 m.

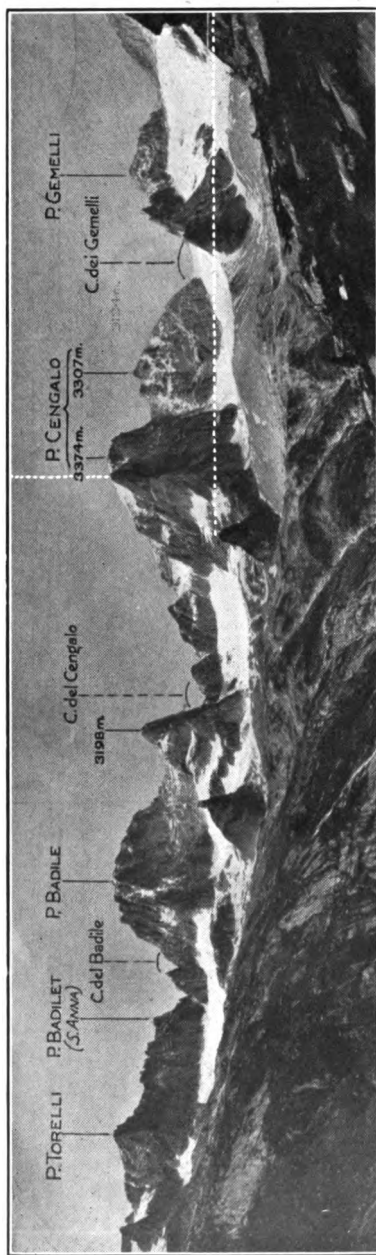


Photo: A. Corti.

FROM THE SOUTH.

2583 m.

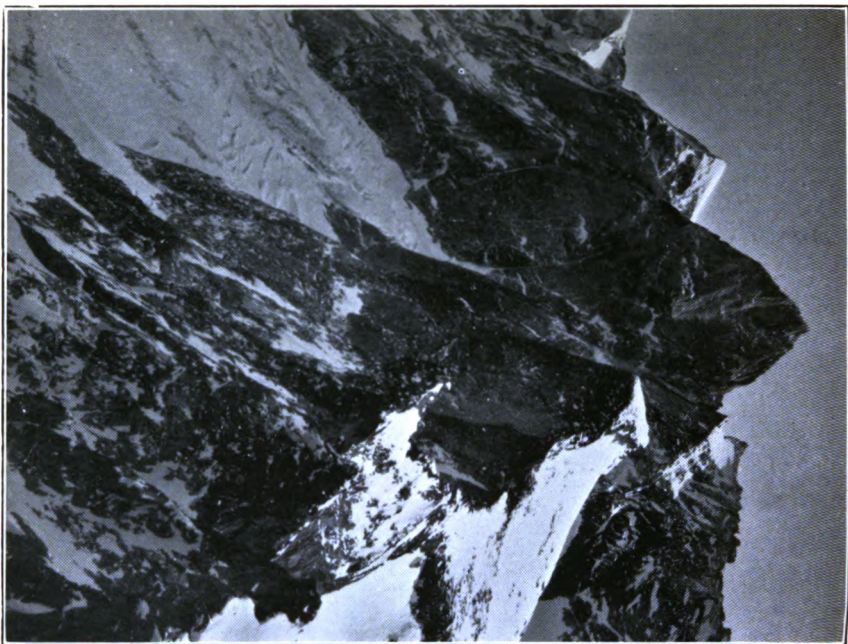


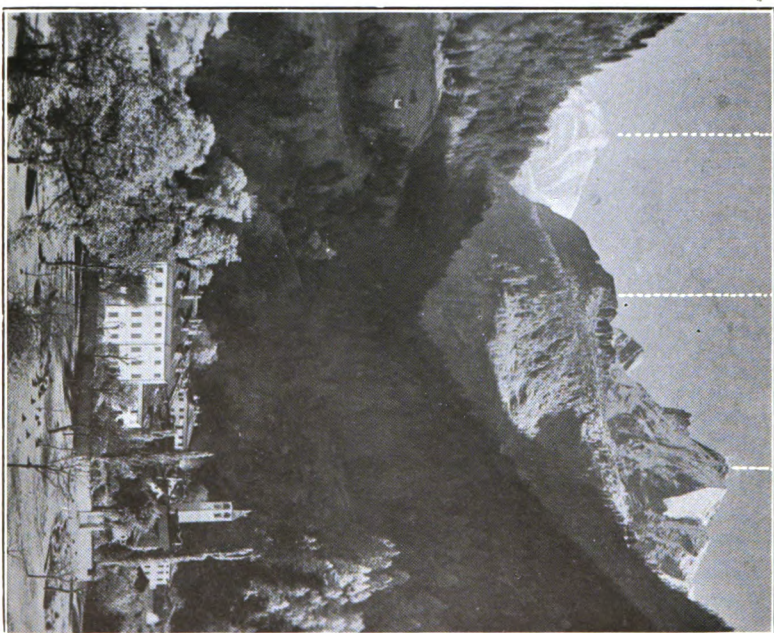
Photo: O. Schiavio.

N.W. slope of PIZ BADILE from above the
PASSO DI TRUBINASCA.

Sciора di
Dentro

Sassfurà
Buttress

P. Cengalo



PALAZZO DE SALIS and BONDO
looking up VAL BONDASCA.

and the main mountain. Then follow the *crest* of the sharp E. arête to the top (4 hrs.).

The rocks on all these routes are generally splendid. The N. *slope* of the E. arête, which is sometimes taken as a variant to the crest, is a dangerous exception.

When the mountain is at all snowy or icy it should be left severely alone.

4. THE NORTH FACE.—I shall always remember my friend Count Aldo Bonacossa, best of the younger school of Italian mountaineers, coming to me at Zermatt in August 1911 to announce the reported conquest of this face. Our mutual interest was intense. Shortly afterwards, on the facts being known, we agreed that the problem was, in great part, still unsolved.

An account¹⁰ was given of the 1911 expeditions in 'A.J.' xxvi. 464-5, and if the reader desires details let him turn to the *Rivista Mensile*, 1912, p. 195 *et seq.*, with an excellent marked illustration of the N. face.

Very briefly, a party consisting of Signori Guido Scotti and Angelo and Romano Calejari, starting from near the Sassfurà

¹⁰ The route followed is, in its lower part, not very clearly described. The Italians appear, although starting from Sassfurà, to have reached the Cengalo Glacier, by *descending* the Viale Pass; the buttress seems to have been attained by a very high traverse of the N.E. face. This traverse as well as the *lower* one, effected by the Risch-Zürcher party of 1923, is not advisable. Klucker's route by the entire buttress is the correct one.

In view of the remarks to follow, a short description of the *Viale* appears necessary.

THE VIALE PASS, c. 2160 m. = 7090 ft. Name only on *Wilson map*, no height on any map. Pass leads from the Cengalo to the Sassfurà pastures and serves as a nearly level, also the sole, communication between the Sciora Club Hut and the peaks to the W. of Piz Badile. The 'Pass' lies to the S. of the spot marked 2184 m., *S. map*, and is indicated, for those with first-class eyesight, as a dotted line on the map.

A series of adjacent and curious ledges, accessible for cattle, lead diagonally upwards, S.E. to N., across the sheer Sassfurà buttress, just where that buttress falls in a great cliff to the floor of the Bondasca glen. The 'Pass' is just in the notch of the crest of the buttress, and is blocked on the N.W. side by a wall to prevent accidents to cattle. From the 'Pass' a rough descent, almost due N., over debris (or snow), leads to the Sassfurà hut, 1830 m. (About 2½ hrs. from the Sciora Club Hut.) All the guide books give full particulars.

shepherd's hut at 05.15 on July 30, 1911, attained a point on the N. face whence all farther progress was impossible. The return was commenced, and at 19.00 'a platform overhanging the abyss' was reached. Here bad weather came on, and the party halted for *eleven hours*. On July 31, at 06.00, the descent was continued, and the base of the face was regained at 13.15.¹¹ On August 3 the same party, by the S. face, reached the mountain's summit at 07.30; then, with innumerable ropes, rings, and *pitons*, after descending the N. buttress for many hours, proceeded to lower one of the party to (?) approximately the spot¹² whence they had previously turned back (15.50). The reunited party then returned to the summit, regained at 18.50, arriving at the Badile Club Hut at 21.00.

A truly remarkable exploit, and also one in which, on the party's own avowal, every human limit of reasonable prudence was overstepped. The wonderful summer of 1911 witnessed many bold feats, and none bolder than these two desperate attempts.

Twelve years passed, and then a postcard from my splendid veteran friend, Christian Klucker, announced the conquest of the 'awful precipice' on August 4, 1923, by the guide Walter Risch¹³ of Campfer, Upper Engadine, accompanied by the Swiss amateur, Herr Alfred Zürcher¹⁴ of St. Gallen. Time again passed, and no official account¹⁵ of the great climb came to my notice. Again, as in many a previous difficulty, I appealed to Klucker, and received the following clear and characteristic letter:—

Fex, November 1st, 1924.

(Translation.)

DEAR COLONEL STRUTT—

. . . I am enclosing Herr Alfred Zürcher's account of the ascent of Piz Badile by the N. buttress, which I have just received.

¹¹ On this occasion, judging by the quantities of rope-rings and *pitons* discovered by the Risch-Zürcher party in 1923, the Italians appear, wisely, to have descended the buttress itself.

¹² A rope of 350 ft. in length appears to be necessary!

¹³ Risch is a native of Brigels, Bündner Oberland, and is consequently not an Engadiner by birth.

¹⁴ When describing such a performance I have no hesitation in putting the name of the *leader* first.

¹⁵ At the time this article was written, Herr Zürcher's paper in the new *Monatschrift S.A.C.*, 'Die Alpen,' No. 1, Jan. 15, 1925, had not appeared. I am *not* quoting from it.



Photo: J. Gaberell.

WALTER RISCH. CHRISTIAN KLUCKER.

On top of Cima del Largo.

P. Cengalo
3307 m. 3374 m.

C. del Cengalo
3198 m.

P. Badile

C. del Badile

P. Badilet
(St. Anna)

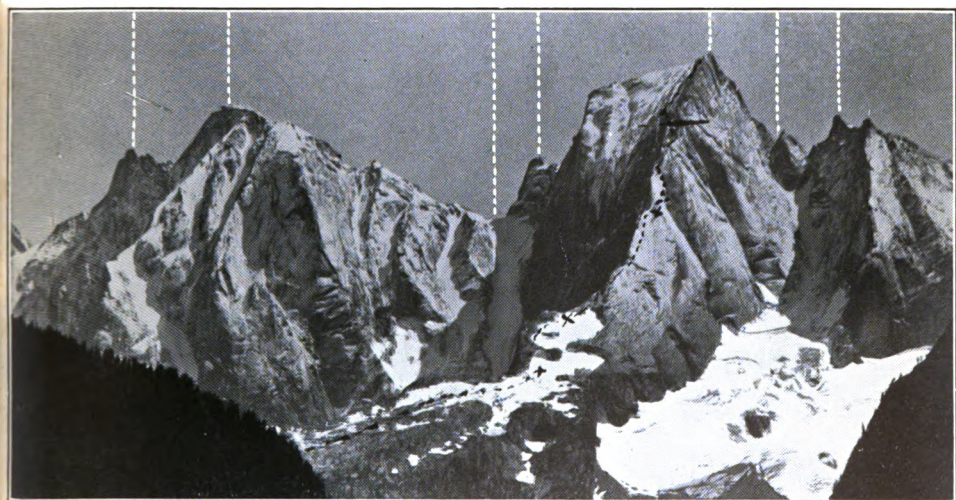


Photo : J. Gaberell, Zürich.

THE "GREY TWINS"
from the N.

(Route marked by Klucker. The black horizontal line denotes his highest point in 1892 and is the foot of the great slab since climbed in 1923 by Risch and Herr Zürcher.)

3198 m.

3374 m.

3214 m.

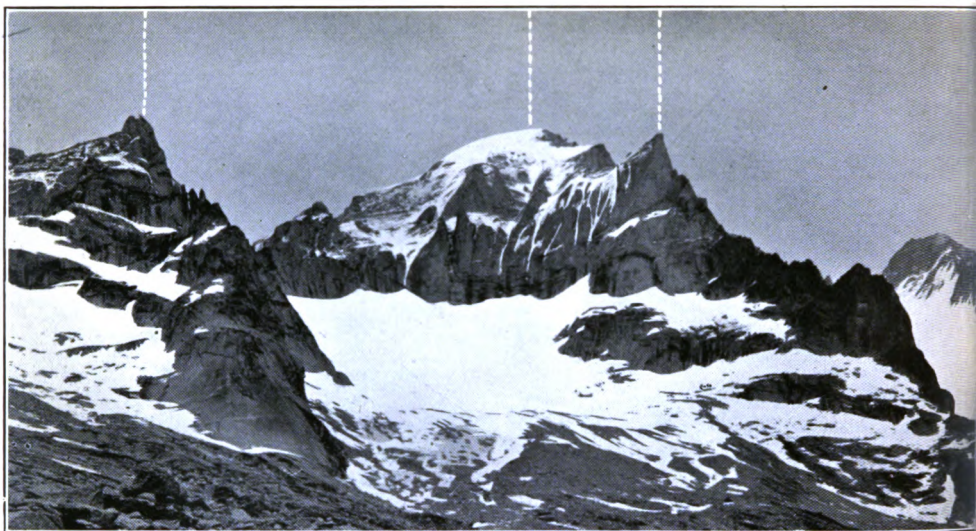


Photo: A. Corti.

Piz CENGALO, 3374 m.,
from the S.W.

Cima di Cantun

Sciara di fuori

Pioda di Sciora

Ago di Sciora

Sciara di dentro

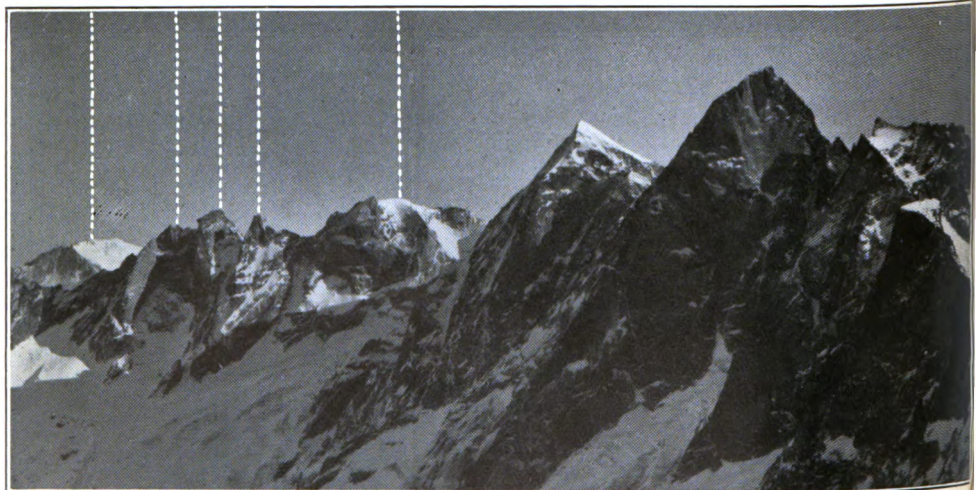


Photo: O. Schiavio.

WEST ARETE and N. BUTTRESS OF
PIZ BADILE IN FOREGROUND;
WEST ARETE and N. FACES OF PIZ CENGALO BEHIND.
(Taken from Pizzo dei Vanni.)

As an introduction to this account you must allow me to go back a decade. Of course, you know, both from the *Rivista Mensile* and the *Bolletino* of the C.A.I., of the expeditions of Signori Scotti and A. and R. Calegari on July 30–31 and August 3, 1911, carried out on the said buttress. It cannot be claimed that these expeditions constitute a solution of the ascent of the mountain by its N. face . . . and I am sure that you, as an authority [*sic*!] on everything connected with mountaineering and with this district, will agree with me.

To further accentuate the importance of the story of Piz Badile's N. buttress I must go back some more decades, to the early 'nineties of last century, when I was exploring the Bregaglia granite peaks with the now deceased Russian gentleman, Anton von Rydzewski.

On July 11, 1892, I went, quite alone, to the spot where the Scotti-Calegari party subsequently turned back. My companions, Rydzewski and the guide Mansueto Barbaria,¹⁶ after the traverse of Piz Cengalo,¹⁷ had descended to Promontogno, while I had remained in the Sassfurà hut¹⁸ on July 10, up to 23.00, collecting their effects. Accordingly, I resolved on July 11 to avail myself of the fine weather and to have a nearer look at the exposed N. face of Piz Badile, and so finally I arrived at the foot of the said steep and smooth buttress at 05.00.

In those days *Kletterschuhe*¹⁹ were unknown, and, as the buttress for long intervals afforded little or no hold, I was soon obliged to take off my boots and continue on my stockinged feet. At 07.40 I attained a small projecting boss which is most certainly the key to the whole expedition. From this boss I could overlook the Engadine, and a glance to the S.W.

¹⁶ [Of Cortina d'Ampezzo.—*E.L.S.*]

¹⁷ [Including the first crossing of the difficult Colle del Cengalo.—*E.L.S.*]

¹⁸ [To reach this hut:—From Promontogno follow the Sciora Club Hut path as far as the Larett huts, 1378 m. (1½ hr.). Now turn due S., cross the Bondasca torrent by a bridge and mount a very steep faint track on the right bank of a small stream flowing from above. Eventually you arrive at a cliff really a re-entrant of the Sassfurà buttress. Cross the stream and bear for a short distance to the W., skirting the cliff; the path suddenly improves and leads steeply over great boulders and through trees in a S.W. direction to a clearing in which is situated the uninviting shepherd's hut, 1830 m. (1½ hr.).—*E.L.S.*]

¹⁹ [Except in the Dolomites.—*E.L.S.*]

showed me that I was higher than the adjacent Badilet [3169 m. = 10,397 ft.—*E.L.S.*].

Without any doubt, the boss is identical with the spot where the Scotti-Calegari turned back on July 30, 1911.

The following bit of the buttress and the absolutely smooth slabs to right and left, which I studied intently, are of extreme difficulty, and their ascent is a *most hazardous* undertaking. This excessively difficult bit seemed to me to be undoubtedly more than 300 ft. high. As I had only intended to *explore* the buttress, and was unwilling, strictly in accordance with my principles, to ascend anything that I might *not* be able to descend, especially in such difficult terrain, I resolved to turn back. Quite alone as I was, with my stockings torn to ribbons and without a rope, I found the descent, as you can imagine, excessively unpleasant, still at 10.00,²⁰ I was back in the little Sassfurà hut.

My conclusions on this route were . . . that for my employer, the N. buttress of Piz Badile had far better be left alone.²¹ . . .

Four years later, at the beginning of July 1896, when my now deceased friend, the late Martin Schocher, was the other guide, the conclusions we both came to were the same.²¹ . . .

. . . When, however, Alpine periodicals, such as No. 40 of the Vienna *Der Bergsteiger*, state that I gave up the N. face as hopeless, you will probably agree with me that such was hardly the case! This *exploration* of mine of July 11, 1892, was—and remains—the only time that I have ever set foot on the Badile's N. face.

In conclusion, just a word about my Alpine friend, Walter Risch.²² On difficult rocks he is quite unsurpassed and is a really marvellous performer. I can only hope that, for the future, he will be a little less enterprising. He is good

²⁰ [The 1911 party, in bad weather, took over 24 hrs. to descend from the same spot, including a halt of *eleven hours*. Only an apparently accidental hitching of the rope prevented a disaster. Klucker's performance in descending the buttress without a rope or *pitons* can hardly have been surpassed even in his own magnificent career.

The difference between the highest class amateurs and guides is still further accentuated.—*E.L.S.*]

²¹ [Several ruthless interventions by the Censor!—*E.L.S.*]

²² [We are sure that Walter Risch will not be offended at our publishing the remarks of one of the very greatest mountaineers of this, or any other age.—*Editors.*]

on ice,²³ but requires more experience. He is a charming, quiet, and intelligent young fellow [I cordially agree.—*E.L.S.*]. May some good and steady amateur—and he will be very lucky—climb with Walter Risch, then my friend will not overstep the boundaries of reasonable mountaineering ideals!

Since 1874 I have had the luck to climb every year in my beloved mountains, and never once, in all these 50 years, has a serious mishap occurred. No search parties have had to be called upon, and, although I have traversed many difficult glaciers, I have never had both feet in a crevasse! Now I am 72 years old, and perhaps twilight is approaching.

You must forgive this long and rather disjointed letter, and I remain, with respectfully affectionate greetings,

Your faithful

(Signed) CHRISTIAN KLUCKER.

In a subsequent and most interesting letter, dated November 24, 1924, Klucker adds the following notes on his 1892 exploration, corresponding with the marked photograph.

‘From the Sassfurà shepherd’s hut (1830 m.) steer a southerly course²⁴ over easy ground, bearing always to the W. of the Sassfurà buttress and the terminal spurs of the said N. buttress, as far as the *first* + on the above-mentioned photograph. Here the real climb begins—*i.e.* I took to the snow slope on its extreme left (E.). This steep snow-slope, some 160 ft. high, must be tackled with extreme caution, since on a warm day the entire snow is almost sure to avalanche and, in fact, slips completely off long before the end of July. I left my boots at the *second* + and clambered up along the crest or a little to its right (W.) to the *third* + on the photograph. A very steep and smooth step follows, which I turned by a very difficult traverse to the right (W.), till an awkward and steep crack enabled me to climb up to the left and so regain the crest of the buttress. Henceforward the route lies over difficult steps, at times to the right (W.) of the crest, as far as the place where I turned back, marked by a straight line on the photograph.’

If anyone be lighthearted enough to renew this ascent, Klucker’s route, I repeat, is the only safe one as far as the foot of the buttress. The Italians, in fact, began the actual expedition by an useless descent of some 300–400 ft., cf. footnote No. 10, *ante*.

²³ [In March 1924, Risch made the ascent of Piz (Monte di) Scerscen, 3967 m., alone!—*E.L.S.*]

²⁴ [*i.e.* the route to the Viale Pass, *ante*.—*E.L.S.*]

(Herr Zürcher's account translated literally from his letter to Christian Klucker.)

'On August 2, 1923, Risch and I carried out the traverse of the entire 'Sciора ridge'—i.e. Sciора di dentro, Ago di Sciора, Pioda di Sciора, and Sciора di fuori. This expedition took us from 04.00 till 19.00.²⁵

'On August 3 we had a day of rest in the Sciора Club Hut, and took the opportunity that morning of making the necessary preparations and of again studying the route with Zeiss glasses. We had already done this from every peak which afforded a view of the N. buttress of Piz Badile. After mature reflection we came to the conclusion that it would be best to allow Risch, on the afternoon of August 3, to proceed alone on a reconnoitring expedition as far as the actual spot where the climb on to the N. buttress of the Badile begins.

'Risch accordingly left the Sciора Hut at 13.00, and after about an hour I was able to observe him, through the glasses, cutting his way up the snow and ice slopes towards the buttress. He took a fairly long time over this, and did not return till 19.00, when he brought the comforting news that the route was well prepared as far as the buttress, and that much time would consequently be saved.

'Our expedition up Piz Badile was accomplished on August 4 under ideal conditions. To spare ourselves as much as possible, our porter, Rezzoli, accompanied us to the foot of the buttress, declaring himself willing to carry all our effects.

'We left the Hut at 04.45, attained the actual base of the buttress at 06.35, packed our rucksacks, and commenced the climb proper at 07.10. We left ice-axes and nailed boots²⁶ at this spot, as we intended to return by this route [*sic*], not knowing whether the expedition was possible or not.

'At 13.30 we made our first halt, exactly at the spot where the Italian party of 1911 turned back.²⁷ We found their cards under some heaped-up stones, and I took the cards with me. [Klucker informs me that he built a small cairn here.—*E.L.S.*]

²⁵ [This is, I think, the first *combined* traverse of the said peaks. An accident, during the descent of the Colle della Sciorretta, W. slope, was only narrowly avoided.—*E.L.S.*]

²⁶ [In a short note in *R.M.* 1924, p. 239, Herr Zürcher states that the party carried two new ropes of 120 and 80 ft. length respectively, besides 18 *pitons* and the strict minimum of provisions.—*E.L.S.*]

²⁷ [See *A.J.* xxvi. 464-5 and the photo marked by Klucker in this number.—*E.L.S.*]

'At 14.00 we commenced the hardest bit of the climb, which, without exaggeration, reaches the extremest limits of human possibility. The slab is about 350 ft. high and we only accomplished its ascent at 17.15. Thenceforward the climb, although very difficult, is probably the finest existing anywhere.

'At 18.50 the ascent was completed, and, thanks to Risch's superb leading and judgment, fortunately without accident.

'We commenced the descent to the Badile Hut at 19.15. Unfortunately we missed the proper route and had to descend, in the dark, a long couloir ²⁸ of 300 to 350 ft. in height by means of a hitched rope, so as to reach a tongue of snow below. Having attained this snow, we slid down by means of *pitons* [*sic*] and small steps cut by the axe ²⁹ (*Beil*) over this hard frozen substance. Finally, we hurried, with our footgear torn to strips, to the Badile Hut, attained at 22.30.

'Next morning we left the hut at 04.30, descended Val Masino ³⁰ to Ardenno, whence we proceeded by rail, via Colico and Chiavenna, to Promontogno, where we arrived, very fit, at 16.00.'

Walter Risch has kindly verbally supplemented the above narrative :—

The party struck the Sassfurà buttress [coming, of course, from the N.E.] just about the *second* + on the marked photograph [where Klucker left his boots]. After attaining, by Klucker's route, the place [there is a very difficult bit *below* this spot which they turned to the *left*, E.] whence Klucker and the Italians turned back, Risch turned to the *left*, ³¹ E., and traversed some 180 to 360 ft. [he cannot, and no wonder, definitely recall the exact distance traversed], by a barely perceptible upwards

²⁸ [This couloir may very possibly be the one first ascended in 1879 by the late Professor B. Minnigerode with Alois Pinggera of Sulden. Risch and Klucker concur. I had the pleasure of seeing Pinggera, hale and hearty at the age of 78, at Sulden in 1924.—*E.L.S.*]

²⁹ [Walter Risch informs me that he took with him a very small wood-cutting axe belonging to the Sciora Club Hut, and that the said axe proved a vital necessity during the *ascent*.—*E.L.S.*]

³⁰ [The party drove from Masino-Bagni to Ardenno.—*E.L.S.*]

³¹ This is the part of the N.E. face where streaks of snow, set at an impossible angle, are often visible in late summer. On this occasion the face was completely bare, except for ice-threads in the minute cracks.

slanting ledge [in some places only an inch or two wide], over the enormous N.E. face. Risch states—his whole account is modest in the extreme—that the exposure is indescribable. At the end of the ledge he turned upwards by a minute crack or chimney, occasionally ice-filled, till almost flush with the face, and, by means of two or three doubtfully wedged boulders, with extreme difficulty regained the crest of the buttress above the great step. Thenceforward the climb is straightforward, and, although extremely steep, leads over many quite negotiable steps to the top (14 hrs. 5 mins.).

During the ascent, Risch employed only 3 [all on the N.E. face] out of the 18 *pitons* carried. He adds that all along the buttress he encountered numerous rope-rings, *pitons*, and even a long rope left by the Italians and also by an Austrian Cinema [!] party who had previously [*i.e.* before August 1923] attempted the route and wisely turned back after climbing a very short distance.

The rocks, on the whole, are very good, but at the difficult step where Klucker and Risch turned on to the N.W. face³² they are apt to flake off through weathering, and this occasionally occurs above as well as below.

As regards the route followed by Risch and Herr Zürcher, it must, of course, be remembered that the start in this case was from the Sciora Club Hut, on the opposite side of the Bondasca glen. Nevertheless, in Klucker's opinion, and, if I may add, also in my own, the party should have taken the Viale ledge by passing below the Cengalo Glacier (quite safe in the morning) and point 2313m., *S. map*; then, mounting the ledge to the notch or 'pass' in the lower Sassfurà buttress, have climbed on to the crest of the said buttress as Klucker did.

Concerning the snow-slope³³ above point 2313 m., traversed *thrice*³⁴ by Risch, Klucker and I are both well acquainted with it. It rests on extremely smooth and steep slabs and consequently never adheres long. So soon as a really warm wind occurs, the slope, which attains in a snowy spring a depth of 6 to 10 ft., peels completely off, and thunders right down over

³² *i.e.* at the *third* + on the marked photograph.

³³ In 1911, at the time of the Italian attempts, this snow had already slipped off—so Klucker informs me.

³⁴ Risch's *first* traverse, on his exploration of August 3, made between 13.00 and 19.00, was especially dangerous.

the Cengalo pastures. An entire herd of cattle and sheep was thus destroyed some years ago, as is well remembered in Bondo.

Let it not be thought that I am lightly criticising the judgment of better men than myself. This is, however, a place like, indeed, the entire N.³⁵ slope of the massif from the Passo di Bondo to the Trubinasca Pass, where intimate local knowledge is essential, and Val Bregaglia contains, in 1925 as in 1861, no professional mountaineers worthy of the name.

If Walter Risch committed an error of judgment through want of local knowledge, then he sinned, at any rate, in good company. That very first-class guide, the late Martin Schocher, confessed to both Klucker and myself that on June 29, 1897, he committed, also without any unfortunate result, the worst crime of his professional career. The day was a very warm one, and the party, after successfully withstanding an intense ice and stone bombardment of many hours' duration, duly accomplished the first and only ascent of the N. face of Piz Cengalo. The summit was attained after hacking a hole through the great cornice. A few hours later the entire cornice, some 400 yards long, fell and completely raked their route.

Yet another example, since it is a writer's privilege to talk about himself. On June 9, 1913, Josef Pollinger—he needs no introduction—and myself were anxious to make the second crossing of the Colle dei Gemelli³⁶ (between the Pizzi Gemelli and Piz Cengalo). The day was not cold, but conditions were apparently perfect. The writer, with great *local* knowledge, was somehow not enthusiastic, and eventually the party ignominiously made the tame ascent of the Sciora di Dentro. While sitting on that summit, the largest and most awe-inspiring avalanche of my whole Alpine experience swept the full length of the N. couloir leading to the Col. Our position would have been about midway in that couloir. It is perhaps an indiscretion to add that the second crossing of the Colle dei Gemelli has yet to be made.

No further comments are needed on the truly great performance of the Risch-Zürcher party.

³⁵ Or, for that matter, the *entire* N. slope of the 'Bregaglia' Group.

³⁶ First crossing—Klucker leading guide. Extremely cold day, conditions perfect, June 9, 1892.

*Piz Cengalo.*³⁷

Piz Cengalo³⁸ (= 'Tschingel,' i.e. the 'Girdle'), 9374 m. = 11,070 ft., *S. map*, of all the Bregaglia mountains, is only surpassed in appearance by Piz Badile and in height by the Cima di Castello, Monte Disgrazia being, of course, off the main chain.

Like Piz Badile, it consists of two principal arêtes, E. and W., but has also a secondary one, S.; Piz Cengalo may thus be said to have three faces, N., S.E., and S.W. Unlike Piz Badile, Piz Cengalo possesses two peaks.

Of routes, however, I am tempted to say, the mountain has—at present—but (!) *one*, the W. arête. For practical purposes, and so far as my knowledge goes, the E. arête has been taken but once; the S. arête, of which the lower third is impracticable, but once, partly, up and once, partly, down, while the great N. face, to which allusion has already been made, has been accomplished but once, and that ascent took place twenty-eight years ago.

Like 99 per cent. of other mountaineers, I have been content with the W. arête (twice).

1. The first ascent of the mountain, long pronounced impossible, was accomplished, most deservedly, by Messrs.³⁹

³⁷ Between Piz Badile and Piz Cengalo is situated the Colle del Cengalo, 3049 m. = 10,004 ft., *S. map*. Name only on *Wilson map*.

A long snow or ice gully, some 1500 ft. high and averaging 52°, leads from the Cengalo glacier to the watershed. The ascent, very rarely made, is, after mid-July, usually impossible, owing to the enormous bergschrund and the numerous falling stones. The descent on the S. side presents no difficulty. The pass has been attained in 3 hrs. 30 min. from the Sciora Club Hut—the time of the writer, led by Josef Pollinger, on June 15, 1908, but as much as 21 hrs. have been consumed in the gully alone!

The *descent* on the Swiss side has been accomplished but once, and under Klucker's lead.

On the whole, it is safest, although not the easiest, of the three precipitous passes—Gemelli, Cengalo, and Badile—leading from Val Bondasca to Masino.

³⁸ For the various names and heights assigned to the mountain, see *Climbers' Guide*, 'Bernina,' Part I., pp. 32–3, also compiled by Mr. Coolidge.

³⁹ The first party, starting from Masino-Bagni, accomplished the ascent in the extraordinary time—especially for a first ascent—of 4 hrs. 40 min. The writer, in 1914, led by Josef Pollinger, after straining every nerve, was only able to beat this time by 10 minutes!

D. W. Freshfield and C. Comyns Tucker, with François Dévouassoud, on July 25, 1866, by the *W. arête* :—

From the Badile Club Hut, mount debris and snow to the small glacier lying S.W. of the peak. Now, *either* mount this glacier to the conspicuous Colle del Cengalo and thence climb the easy rock *W. arête* of our peak, *or* by a gully attain the *arête* E. of, and higher than, the said pass. After a short *descent*, climb easy rocks and then a snow slope, keeping well to the S., to the summit (8 hrs.).

Great care should be taken to avoid the enormous summit-ridge corniche which overhangs the N. wall.

2. The *S. arête*, as has already been said, is hopeless in its lower part and can only be reached from the E. It is a difficult and unpleasant climb over loose rocks and is much exposed to falling stones :—

From the Badile Club Hut, steer N.E. to the little depression N. of point 2583 m., *I. map*, of our peak's *S. arête*, thence go up the small glacier lying S.E. of the summit. A snow and rock gully seams the E. slope of the *S. arête* from a gap rather N. of point 3214 m., *Lurani map*. Go up this dangerous gully and with difficulty attain the crest, which is followed over its steep *W. slope* to the summit (c. $4\frac{1}{2}$ hrs.).⁴⁰

3. The *E. arête* is a splendid example of shattered mountain architecture ; at its E. extremity is situated a fine rocky tooth point 3307 m., *Lurani map*, constituting Piz Cengalo's E. peak.⁴¹

Although point 3307 m. has several times been attained, yet the ridge leading from that point to the summit of Piz Cengalo appears to have been traversed only once, *i.e.* on August 8, 1920, by Count A. Bonacossa⁴² and Signor Carlo Prochownick. The *complete* ascent of Piz Cengalo by the E. *arête*, or, in other words, from the Colle dei Gemelli, passing *over* point 3307 m., has not, I think, yet been accomplished. The ascent, although the rocks are not sound, should prove to be one of great interest and is recommended :—

From the Badile Club Hut follow the route to the Colle dei Gemelli (2 hrs.). From that pass turn W. and climb on to the E. *arête* of Piz Cengalo, E. peak. First by the crest, then, as

⁴⁰ Taken from Count A. Bonacossa's account, *S.A.C. Guide*, pp. 144–5.

⁴¹ This peak received from Italians the remarkably inappropriate name of ‘Punta Francesco,’ cf. *A.J.* xxvii. 413 ; the *S.A.C. Guide*, p. viii, very rightly suppresses it.

⁴² See *S.A.C. Guide*, pp. 146–7.

the rocks become rotten, turn on to the S. slope, and by this slope, and finally again by the crest, attain the E. peak (2 hrs.). From this peak *descend* some 60 ft. towards the S.S.W., and so attain by easy ledges the depression between the E. peak and the summit (20 min.). Now by good rocks to a slab accessible by a crack, then over a smooth and exposed ledge leading diagonally towards the S., and thence attain, by easier rocks, the ridge itself. Keeping slightly on its S. slope, the summit is then reached over good rocks (2 hrs.).⁴³

A very few and quite unimportant variations to the summit have also been accomplished.

The E. peak, 3307 m., has been reached by various routes besides the above: the S.E. rib, the (??) S. face and the S.S.W. face, *i.e.* the flattened gully or trough forming the face in the angle between the summit, 3374 m., and the E. peak, 3307 m.

From this latter route my party was driven back in 1913 by showers of stones, and the ascent should only be attempted with perfectly *dry* rocks.

4. The NORTH FACE.—This splendid wall, some 4000 ft. in height, suffers only by comparison with that of Piz Badile. The face, if nearly equally steep, is more broken, and, in its upper portions, less slabby. Owing to the presence of numerous gullies and occasional ledges, I have never seen it denuded of snow, and imagine that this event rarely, if ever, takes place. There is nothing resembling the Sassfura buttress, consequently it is impossible to find shelter anywhere from the constant danger of falling stones and icicles, besides the ever-recurrent peril of falls from the immense summit-ridge cornice.

The 'difficulty' of the ascent is far less than that of the N. face of Piz Badile. On the other hand, the 'danger,' as differentiated from mere 'difficulty,' is infinitely greater. A baboon would easily climb the N. face of Piz Badile; it would be long odds on his being killed on Piz Cengalo.

All the guide-books, as well as the writer, concur in considering that this route should never be repeated.

The only ascent was accomplished by ⁴⁴ Martin Schocher, of Pontresina, together with Prince Scipio Borghese and the guide Christian Schnitzler, also of Pontresina, June 29, 1897:—

Very briefly: from the Sciora Club Hut follow the Colle del Cengalo route till almost exactly under the summit. A great

⁴³ Taken from Count A. Bonacossa's account, *S.A.C. Guide*, pp. 146-7.

⁴⁴ I adopt the same procedure as in footnote 14.

glacier-polished nose here projects into the glacier; this nose was left to the right, W., by the first party. Now turn upwards, cross the bergschrund and climb the Eastern of two parallel chimneys to a perpendicular step, then turn and traverse into the W. chimney; when this in turn becomes impossible, traverse back into the E. chimney till with great difficulty you attain a snowy ledge.⁴⁵ The ledge leads steeply and diagonally, W. to E., across the lower portion of the N. face. Follow it till you can attain a precipitous icy rib interspersed with slabby steps leading S. towards the summit. The danger, hitherto excessive, becomes rather less acute. Climb this difficult rib, cut through the corniche, and attain the top (9 hrs., the time of the party, which is fast).⁴⁶

The fate of the corniche on June 29, 1897, has already been related, and Martin Schocher informed me that this ascent was by far the most dangerous expedition of his life.

The *S.A.C. Guide* gives full details of all these routes, and my best thanks are due to my friends Count Bonacossa and Herr H. Rütter.

Writing these last few lines from Bondo, from the windows of the historical 'Palazzo' de Salis,⁴⁷ beneath the shadow of immemorial Castelmur, the two gigantic mountains vividly outlined against a lowering winter sky, it appears vain to realize that any human being could cling for one instant, leave alone for endless, breathless hours, to those threatening, sky-cleaving walls!

None who have glanced at them from Val Bondasca or Soglio will disagree with me, and, as in the case of a far more famous mountain . . . 'however exalted may be their ideas and however exaggerated their expectations, none will come to return disappointed.' The Swiss and Italian parties, undaunted Christian Klucker himself, have no cause for mutual jealousy, but I cannot help hoping that the N. faces of the great 'Grey Twins' will now for ever rest in peace.

Some years ago the writer was indiscreet enough to publish

⁴⁵ In 1908 the writer noted that this ledge could be far more easily reached by a snow or ice gully, W. of the nose, starting from near the E. foot of the gully leading to the Colle del Cengalo. Klucker and Herr Rütter both concur.

⁴⁶ *R.M.* 1897, pp. 249-50; *A.J.* xxv. 9.

⁴⁷ The Grisons residence of Count J. F. C. de Salis, K.C.M.G., C.V.O., late H.B.M.'s Minister to the Vatican.

an article on facts and fiction in the Bernina.⁴⁸ Italians have generously forgiven him. The first ascent of Piz Badile by the N. face is, in 1924, 'denied by the guides, inhabitants, and irresponsible visitors of Val Masino'!

SWISS PRINTS.

SOME EXHIBITION REFLECTIONS.

By C. R. PARAVICINI

(Swiss Minister to Great Britain).

AN Exhibition of Swiss prints in London is a novelty. I personally have never seen one. But the introduction to the catalogue tells us that the Alpine Club held one in 1909, at which time I was in Russia.

One of the leading daily papers headed its *revue* of the December exhibition 'A Revelation.' This makes me believe that the Alpine Club has indeed shown the London public something hitherto unknown to them. How far that novelty has appealed to their taste is a question which I shall not attempt to answer, but many people whose judgment I highly value have been unstinted in their praise.

That the quality of the prints shown has been—with hardly an exception—of very high standard is explained by the traditions of the organizing club itself. It may be said, however, that even in Switzerland temporary exhibitions of this class and extension are rarely seen. For anyone anxious to study the various artists, their working ground, their inspiration, and their technique, no better opportunity could have been wished for.

From the point of view of pure contemplation and visual enjoyment the subjects chosen by these Swiss artists speak for themselves. They need no lengthy explanation. They are taken from nature untouched and unaltered in its graceful simplicity. They do not seek to convey any deep secrets of art or philosophy, they show the ordinary events of daily life: peasants at their rustic work and their simple and pleasant enjoyments, rivers, wood-surrounded meadows in sunshine, snow-covered mountains seen from the platform of an ancient

⁴⁸ *A.J.* xxvii. 402-17.

town. The artists themselves work with limited means of hand and talent. They may all, without a single exception, be classed under the heading of 'small masters.' Small masters not only with regard to genius, but also with regard to the size of their works. There is no monumental touch in their products, and even when, now and then, a classic building or an old cathedral appears in the corner or background of a riverside landscape, the heroic note, even in its mildest form, is to be found nowhere. Their aim is to produce pleasantness, loveliness, to transfer to paper the beauties of their surroundings, the fresh and blooming wonders of an alpine world as they see it with the free eye of an unspoiled observer.

And yet, in all their simplicity and modesty, have they not created a kind of art worthy of our attention and sympathy? Have they not found means to bring nearer to us, in a peculiarly attractive style, the objects they cherish? Have they not succeeded in applying a special form of production, a form marvellously capable of rendering the impressions of that particular world, a form so finely executed that it has never been surpassed, either before or after? Swiss prints are things apart. There is nothing of the same kind elsewhere. There are, of course, coloured prints in France, in England, coloured prints of high artistic value, some, no doubt, of higher value than the Swiss ones; but they are different. Swiss prints are in a class by themselves.

It is only a comparatively short time ago that these prints attracted the attention of the modern lover of art. Thirty years ago one could count on the fingers of one's hand the collectors who specialized in these things. In the early times of my diplomatic career I bought pieces in Paris for twenty francs for which one has to give to-day as many pounds or more. The first serious and systematic collector was Dr. Engelmann, at Basle, whose treasures are now divided up between several art galleries in Switzerland, the best part of them at Berne. It would be difficult nowadays to unite again so complete a collection of fine specimens. Times have changed and the hidden treasure of that Swiss art of a hundred and fifty years ago has been drawn out of its resting-places. Since the beginning of the present century something like a craze for seeking these prints has developed among quite a considerable number of people interested in *objets d'art*. This not only in Switzerland itself, but also in Germany, Austria, France, and England. During and after the war some magnificent German collections have come into the market. In France sales of

Swiss prints have had remarkable success ; they are rare now, as the supply has become scarce. I was told in Switzerland that the finest private collection of Swiss prints existing to-day is in London. I have since been fortunate enough to inspect it, partly at least, for in spite of several visits I have not yet seen all its contents. Thanks to its enthusiastic though highly critical owner, thanks to his competency and generosity, the Exhibition of the Alpine Gallery has been a remarkable event indeed. It was he who provided the catalogue with an excellent introduction, giving on barely three pages, in a condensed and yet clearly illustrative form, an excellent synopsis of the *milieu* from which the prints exhibited have come. May I avail myself of this opportunity to congratulate him once more on the skill and perfect taste with which he has provided the visitors to the Exhibition with an instructive and ably compiled guide ?

I have said that it is only lately that these prints have come again to the front. They have, of course, been prominent before, namely, at the time when they were created. For forty or fifty years, from about 1780 till 1820, they must have been quite popular. In Switzerland one found a great number of them, and still finds such occasionally on the walls of living rooms and bedrooms in old houses, where they have hung for a hundred years. It is true that about the middle of the last century they were not thought much of, and many a mistress of an old house or château has deemed it appropriate to relegate them to the servants' rooms. In my sister's boudoir hangs a full series of irreproachable Freudebergs which, as a girl, she had one day discovered in the attics of grandfather's house. The fine and exceedingly rare 'Retour du Soldat suisse' in yellow coat was found, not long ago, by its present proud owner in a cow-milker's room in one of his farm-houses. But, as I said, people must have liked them and bought them freely in their time. As souvenirs, these books, prints, costume plates, have been great favourites with the travellers visiting or passing through Switzerland, especially with British travellers, for in all parts of the United Kingdom great numbers of Swiss prints have come to light. In Germany, in Russia, even in Sweden, I have found a good many, and it may well be taken for granted that, a century ago, few travellers left my country without some of these pictures hidden in a trunk.

With a masterly accuracy the dates of the Alpine Gallery exhibits have been limited to the period of 1770 to 1820. Before 1770 there were practically no Swiss prints ; after 1820,

with the introduction and speedily successful propagation of lithography, the style and artistic value of the views and costume plates deteriorates to a more commercial article. Such deterioration reacts infallibly, though in a wider sense perhaps unconsciously, on the public taste. The later engravers met with steadily diminishing success, and soon the interest for them as well as for their much superior predecessors vanished altogether. It was a fashion which had gone. Swiss prints had to wait until the dawn of the twentieth century to find again favour in the eyes of men.

It may seem strange that before 1770 the beauties of the Alps remained unnoticed. Indeed, all I have seen of alpine views dating from the seventeenth and earlier eighteenth century are a few artless line engravings. As a rule, they give no idea of the real thing, not even a remote one. Sometimes they are adorned with pompous baroc settings and symbols, in order to endow them at least with some decorative quality. All in all they are miserable images only of the wonders they pretend to reproduce.

The absence, during those times, of the sense and comprehension of nature seems to me to find its reason in the spirit of the period. People had other thoughts, other preoccupations. The sun, illuminating the snow-crowned peaks, was by no means the view inspiring the highest admiration. It was the sun of Versailles towards whom all eyes turned, it was he alone who could make the world glitter under his rays. It has been said again and again that the centuries of Louis XIV. and Louis XV. had been monopolized by France. The taste of the most Christian King, of his Court-artists, courtiers, and mistresses, was the taste which was the sole disposer of the means of grace. These illustrious people knew nothing of the Alps, they knew nothing of the Swiss mountains and meadows, except that they were the rustic homes of those soldiers who fought so bravely, on all the battlefields of Europe, for the lilies of France—and against them. Who cared for high mountains and alpine glow? Who thought of visiting the Alps, who knew they were beautiful? Should an occasional traveller, returning from Italy, have said a word about their beauty in the salon of the Duchesse de Brancas or of the Maréchale de Richelieu, nobody would have listened. There was no beauty in the world to be compared with the beauty of Versailles.

Thus, even the young and middle-aged patricians of the Helvetic States, serving as officers in the Swiss Regiments, in the Cent Suisses, the Swiss Guards, or in one of the eleven

Foot Regiments, gave little thought to the claims of nature in their home-land. They are, heart and soul, captured by the surroundings in which they live. Their aims are to make a name in battle for the glory of their family and their country, to be 'in it' at the Court and in the high life of Paris, to mix on equal terms with the Red Heels in camp, in the Palace, and in the salons. It is true that all through the reigns of the great Bourbons their position was certainly a strong one, and we find continually Swiss generals in the foreground, from the Marshal of France d'Erlach of Thirty Years War fame down to the General de Bésenval, the intimate and ill-inspired counsellor of Marie-Antoinette. When the time came for their return to Switzerland their recollections left them no peace. Some of them, owing to their position and experience, attained the highest place in their State. Is it astonishing that they should model their house, household, and parades after the great image they had seen and admired abroad? Their houses in town and country are built in French style, their installations are French, their gardens are French with straight *allées* and trimmed trees. There are no snow-mountains, no wild falls, no alpine valleys at Versailles. A view on the wonders of nature is therefore of no avail. If one of these seigneurs builds a country-house, destined to be his own little Versailles, he chooses a position where the view resembles the outlook in Ile-de-France. The Château of Hindelbank, for instance, an imposing mansion near Berne, built about 1735, was carefully put on a hill overlooking the plain of the Aar, turning its back to the chain of the Bernese Alps, which, from a position a short way off, could have been seen in all its glory.

Suddenly all this changes, somewhat unexpectedly, during the 'seventies. Nature seems to become the fashion, and, simultaneously with Nature, her spoilt child among the countries of Europe. Switzerland, all of a sudden, seems to be visited by every kind of Western and Northern foreigners, for the sole purpose of admiring her scenery, exploring the secrets of so much natural beauty, and entering into contact with the apostles of this newly discovered marvel.

What were the reasons of this striking conversion of taste and interest? I think there are several reasons here, just as there were before for the opposite attitude. Here also I should see an important factor in the lead of Versailles, where the sixteenth Louis, with his charming and hopeless Queen, now succeeds to his grandfather. It is, of course, no more the old Versailles. The tone under the shaky-minded though by no

means unintelligent King changes ; its power as the almighty centre of *esprit*, art, and culture becomes a thing of the past. Still, the fact that the Queen is so fervent an enthusiast of rustic scenery and peasant life—two things which she knew exclusively from unreal shows in the Palace gardens, acted by boys, girls, and animals, all duly groomed, perfumed, and rouged—this fact could hardly fail to have its influence. Yet, it would not have been strong enough, owing to Versailles' decadence, to give by itself the real impulse towards nature, as it probably would have done in former days ; but the official admission of such ideas to Court was certainly a sign that there is no longer an objection to sympathizing with simple folk and wild country-side, now that the Queen's own pastimes protect those fascinated by the purity of nature from losing caste in the eyes of the fashionable.

The far stronger reason was, no doubt, the remarkable and wonderful impetus in literature and science in spheres remote from Court life. This movement originates in the second half of the seventeenth century, goes on growing through all the following decades, and takes just a hundred years till its final triumph. It is not without pride that I can name a considerable number of my own countrymen as having assisted and even led this wonderful current towards a new, more human mentality—a mentality in which the natural treasures of my native land play so great a part. The Zurich school of poets and philosophers, Bodmer, Breitinger, Gessner, Lavater, and others, had long ago given a strong and successful lead in this direction to the minds of people ; but the decisive victory was won by Albrecht de Haller, the greatest of all stars in the Swiss literary firmament of the eighteenth century : his epic poem 'Die Alpen,' written first in German and then translated into French, created about 1770 a tremendous impression practically in every country of Europe.

While the men of Zurich and Berne lend their powerful advocacy to the cause of nature, from Geneva—Switzerland's ally—the giant Rousseau, slowly but surely, was conquering Paris. And when in 1788 Horace Bénédict de Saussure reached the summit of Mont Blanc, the warm enthusiasm for the mountain world as also the fashion of alpine scenery had already gained so solid a ground everywhere that the sensation caused by this event could only perhaps be compared to the emotion with which a more modern world watched the achievements of the heroes of Mount Everest one hundred and thirty-five years later.

Thus, then, it had come about that during the last quarter of that century and for some time after public interest was all in favour of that group of artists whom the Alpine Club has shown us. Surely it is difficult to say in how far they have contributed to the popularity abroad of the Alps and of Switzerland as a whole ; but there can be no doubt that they have done so to a considerable degree, especially with the travelling public. Have they done so exclusively because they themselves were followers and admirers of the new school and idols, or have they partly done so because they found that, art going for bread, their objects and products encountered as much keenness amongst buyers as they could wish for ? However that may be, the fact remains that, for instance, the most important amongst them, Freudeberg, has quietly changed his direction from the dainty Parisian style *à la mode*, in which he was an acknowledged master, to the altogether different subjects of Swiss peasant life. More than that. Even French artists of repute, artists so thoroughly Parisian as Janinet and Décourtis, thought it worth their while to reproduce in coloured prints series of Wolf's alpine *aquarelles*. That they met with but poor success speaks all the more in favour of their Swiss colleagues, whose prints alone seemed to have possessed the true charm and flavour of Swiss nature. Indeed, wherever, outside Switzerland, Swiss views and Swiss costume plates have been produced, in Germany, France, or England, they could never compete with the originals. They were overlooked then as they are overlooked now by collectors. Swiss prints are and will remain a thing apart.

[The catalogue of the Exhibition is bound in with this Number.]

WINTER AVALANCHES IN THE ALPS.

By J. W. BROWN AND P. J. H. UNNA.

ALTHOUGH definite conclusions cannot be drawn from isolated circumstances, the following, which are based upon some personal experiences of winter avalanches in the Alps, may be of interest. In February of this year a party, descending into the Val Lagone, in the Bernina Pass district,

was confronted by a concave slope, facing in an easterly direction, and estimated to have a vertical height of about 150 ft. The altitude was about 8000 ft., and the time about 1 P.M. This slope, which was steep at the top, tailed out to the horizontal at the foot. The surface consisted of a crust, 3 or 4 inches in thickness, which had been formed by the wind. To avoid the slope, a gully, filled with deep powdery snow, immediately to the right hand, was descended, close to the rocks at its side. Lower down, where the gully tended to merge into the slope, the snow was crusted, as on the latter. The last member of the party did a sitting glissade upon the crust, thus taking the lead; and, when the gradient was insufficient for further progress in this manner, put on skis, and took a diagonal course to the left, on snow the steepness of which was guessed to decrease from 15° to 10° . The ski track thus cut across the lower right-hand corner of the main slope, which, as soon as it had been entered upon peeled off from top to bottom. The avalanche made no noise, and the rest of the party, who happened to be facing away from the slope at the moment, was unaware that anything had happened. The first indication was obtained when a ski track was seen leading into the debris, near the toe of which a ski stick was lying slightly below the alignment of the track. The snow in and below the gully was not disturbed.

A line of soundings from the end of the ski track to the stick did not reveal the whereabouts of the missing member of the party, but, when looking upwards from the stick, a hand was seen lying between the broken slabs of snow. It is evident that to tread on the snow covering the head of the buried person may lead to suffocation, but it is not so obvious that any pressure upon the snow covering the body or the rucksack may have the same result. If, as this experience indicates, this is so, especially in the case of the rucksack, it becomes desirable to realize at the earliest possible moment the direction in which the body is lying. What appears to have happened in the present instance would also seem to be probable in other cases of a similar nature. The skis get covered with snow, and held fast in line with the ski track. As more snow comes down the person is pushed over sideways, and ultimately lies down flat on his side, with head more or less down the slope, and with body at right angles to the skis, or heading between that direction and the line of the snow slide. A comparatively small thickness of snow can thus hide the body from view; but, bearing in mind what has been explained, the approximate position of the body can be

surmised when once a definite portion has been discovered. In the present instance the head was covered with, perhaps, a foot of snow, and the skis with about double that depth. The body was at right angles to the skis, and approximately, if not exactly, in the direction of the snow slide.

It was also found that, as soon as the head has been uncovered, the uppermost strap of the rucksack should be cut before further excavation is attempted. As soon as this had been done all signs of suffocation disappeared. Great care was taken to avoid breaking up the slabs of snow, because, in the absence of a shovel, removal of powdery snow becomes a lengthy process. If the slabs could not be lifted out bodily, lumps of snow were carved out with a ski stick. A saucepan was found of considerable help in getting rid of the powder ; but it is probably no exaggeration to say that any snow which has become powdered takes at least five times as long to remove. After the strap had been cut, the rucksack was excavated, and lifted out before the body was dealt with. Not only did removal of the sack give complete freedom to the lungs, but the pit left in the snow provided a convenient starting point for removal of the snow alongside the body. It is needless to say that some article of clothing should be placed under the head, or other exposed part of the body, to keep it from direct contact with the snow.

After removal of the sack, the main part of the body was uncovered, and the hole previously filled by the sack extended so as to form a trench along the whole length of the back and thighs. There was no need to uncover the legs completely. A tunnel was excavated from the knees to the feet, which could thereby be released from the bindings. A little digging under the shoulders then released the lower arm, enabling the person previously buried to get up. To recover the skis, a ski stick was used as a saw to make a vertical cut in line with the skis. They could then be lifted out, after the roof of the tunnel had been broken in, to prevent the bindings from being caught up by consolidated snow.

Search for the buried, in the present case, took only a couple of minutes, as he had the presence of mind to hold his uppermost (left) arm extended upwards, probably with ski stick in hand, in order to give indication of his whereabouts. The ski stick was afterwards dropped, and carried a few yards further down the slope ; but, nevertheless, it served its purpose, inasmuch as it marked the only spot from which the hand was visible.

It is difficult to assign reasons why one slope is safe and

another not so ; but in the few cases of which the writers have personal experience of slab avalanches in winter the snow was probably becoming cooler. Either it had previously been in the sun, and subsequently in the shade, or it was still in the sun, but with the sun's rays striking it at an increasingly oblique angle. The inference is that the snow, through contraction, tends to become in a state of tension, with the result that a comparatively small cut, or amount of vibration, or other type of disturbance, may cause it to start to break up. The break, once started, extends right across the slope, and an avalanche of considerable magnitude may result. The almost invariable existence of a sharp cut face to the snow along the upper boundary of the disturbance would seem to lend support to the supposition that the snow is in a state of tension.

The following appear to be the main conclusions to be drawn from this episode :

1. That where a doubtful slope has to be crossed it might be well to slip one arm clear of its rucksack strap, or to slacken the straps. In the case in point any tendency to suffocation was due to snow pressure against a heavy sack, and the pull of the straps. When the strap was cut, the lower lip turned red within a few seconds.

2. That one arm, with ski stick, should be extended upwards, as soon as the skis have become held fast in an avalanche.

3. That a large rescue party may become a positive danger, if left unorganized after the accident, and allowed to trample indiscriminately over the snow in search of the body.

4. That the body will probably be found in a situation somewhat below the line in which the ski track at the edge of the debris is pointing.

5. That it will be lying approximately at right angles to the ski track, head down the slope, at all events if the person is near the toe of the slope when he starts the avalanche.

6. That the rucksack straps should be cut as soon as possible, and the sack dug out immediately thereafter.

In the instance described the party continued the expedition, which lasted for eight hours after the release had been completed.

A second avalanche, which also occurred under the somewhat exceptional snow conditions which existed this year—in the early part of February, when a strong northerly wind, which blew for some five days, formed a thick crust on many slopes—may be worth describing. Although it was quite a small one,

it seems to point to a moral. The same party were ascending the Valle della Forcola di Livigno by the char road, and on ski. Above the chalets at Alp Vago, and at an altitude of about 6700 ft., the road traverses a south facing slope. The inclination is gentle above the whole length of this part of the road, and similar below at most places. But about half a mile beyond the chalets the road passes the head of a small gully, which runs steeply down to the bed of the valley, some 30 ft. below. This point was reached at about 5 p.m., so that the sun had nearly set, and the snow, which must have been in sunlight for most of the day, was already in the shade. The party was keeping strictly to the road. Just before the leader was actually abreast the gully, his weight caused a considerable area of crust to quake; and snow, having a thickness of several feet, avalanched in the gully. Naturally the party was absolutely safe, there being no snow above the road steep enough to carry away; but, if there had been a slope of moderate steepness above the road, there seems to be no reason why it should not have behaved like the one below. If this argument is correct, it follows that the safety usually attributed to summer paths may be absent when the snow is badly crusted by wind.

Although the snow was undoubtedly cooling when the two avalanches described took place, one cannot draw any definite conclusion from that fact, because it is impossible to say what would have happened if the slopes had been crossed earlier in the day. The cooling argument can only receive substantial support if a slope remains intact when crossed in the morning, but carries away when being recrossed in the afternoon. One of the writers saw this happen in January 1913.

A party of seven was ascending the Arosar Rothorn by the south ridge. This ridge, before it joins the final peak, is more or less horizontal for a considerable distance. Its west side is steep and rocky, but the inclination is gentle on the east. It was on the east side that the avalanche took place. This side held a large slope of snow, which was several hundred yards in width, and several hundred feet in height. The upper part had an inclination of 20, or perhaps 25 degrees; while the lower portion flattened out towards the toe. The slope may have had a somewhat southerly aspect, as it held the sun for some time after mid-day; in fact it was only in the shade for quite a short time before the avalanche, but the sun's rays must have been striking it at quite a flat angle for a considerable period previously. The altitude was slightly less than 9000 ft.

The snow differed from that in the two previous cases, in that it was not crusted ; but the existence of a cornice over the west side of the ridge would seem to indicate that the snow on the east side may, at some time or other, have been acted upon by the wind. During the ascent the party, keeping open order, traversed the upper edge of the east slope, close to the ridge. All were on the slope at the same time, and all kept to the ski track cut by the leader. It was then about mid-day. On the return journey the slope was reached, say, $2\frac{1}{2}$ or 3 hours later. When the leader had passed along about ten yards of the old track, and before any other member of the party had reached the slope at all, a layer of snow, at least two feet in thickness, peeled off from the whole slope. Luckily, the leader happened to reach the only piece of exposed rock on the slope at the same moment. One could watch the crack in the snow travelling across the slope ; it followed the ski track, and took a second or two to reach the far end. This avalanche seems to afford far stronger evidence as to the effect of cooling.

Another point about winter avalanches : Reproductions of the Swiss Government maps are now published with an overprint in red, showing ski routes by single lines, and localities subject to avalanches by hatching. When the general condition of the snow is one of small stability, some of these red route lines may be misleading, and to follow them may not necessarily be safe, even where no indication is given that they cross places liable to avalanche. On the other hand, the absence of any explanation of the methods adopted in determining the distribution of the red hatching may lead one to anticipate danger where none exists under good conditions. It is not clear that discrimination has been exercised between places in which a party may start an avalanche and places which may be swept by an avalanche from above. A wide distinction should be drawn between the two cases, but it is not very apparent on the maps. Where a party starts an avalanche someone is almost certain to be caught ; but where people merely cross a place liable to be swept from above by an avalanche which they could not possibly start themselves they are almost certain to cross in safety. Slopes which avalanche of their own accord only do so once or twice a winter, and the chances that a party will be immediately below at the precise moment are almost negligible.

The two avalanches last described help one to answer the question as to whether the existence of an old track necessarily implies safety. This question is an important one. In spite

of the fact that so much ski-ing is carried out in the Alps nowadays there are but few accidents. This may be largely accounted for by the comparative permanence of a ski track. Tracks may become partially obliterated, but they are sure to show up here and there, until a really heavy snowfall intervenes. The fact that a track can be detected at all, even if only at fairly wide intervals, is quite sufficient to do away with any possible difficulty in finding the route below the summer snow line, and in ninety-nine cases in a hundred dispels any doubt as to the safety of the snow. In some districts it is often a matter of some difficulty to find an untracked route. But can a route necessarily be relied upon because there is an old track? The answer is 'no': in the hundredth case it cannot. The avalanche on the Arosler Rothorn shows that a track cut in the morning does not necessarily imply safety on the afternoon of the same day. But will it do so on the following days? The avalanche in the Livigno valley helps one to answer. There was a track on the char road. Where the snow was powdery it could be felt as one sank into the drift; but nowhere could it be seen. In this case, certainly no inference of safety could be drawn. The correct answer probably is that a track not less than one day old indicates safety where it can actually be seen, provided that the condition of the surface has not been altered for the worse since it was cut. If it is possible for wind to form a crust without obliterating a track previously cut in powdery snow, then it would seem that such track need not necessarily imply safety.

It may perhaps be asked what all this has to do with mountaineering; and why the *ALPINE JOURNAL* should be burdened with matter which only appertains to ski-ing. The answer is two-fold. In the first place, it is often said that snow met with at high altitudes is more similar to the snow which is found in the Alps in winter than it is to summer Alpine snow. Hence the study of winter snow may be useful to mountaineers. Secondly, safety in ski-ing does necessitate knowledge in one branch of mountaineering, and that by no means the easiest one to acquire—ability to judge snow in its winter conditions. One can only obtain this first-hand by trial and error; and a small amount of error will prevent one from making much use of one's knowledge. Hence errors should be recorded, and the *ALPINE JOURNAL* does not seem to be an unsuitable place for doing so. There seems to be scope for some budding Tyndall, practised in examining the structures and properties of materials, to classify the various types of winter snow, deter-

mine the weather conditions to which they owe their origin, and find out reasons for the large variations in stability which undoubtedly exist. When this has been accomplished, a good foundation will have been formed, upon which rules for avoiding winter avalanches can be based.

ICHABOD.

BY BENSON LAWFORD.

LOOKING out of my dressing-room window the other morning, I caught sight of the gentleman who, for a consideration, keeps my garden-path in order ; the instrument he was using at the moment was my old ice-axe, which is admirably adapted for getting up recalcitrant weeds and trimming the edges of the path, but I could not help wondering what, had it been a sentient being, this long-shafted, sturdy son of the Oberland would think of the tame domestic uses to which he was now being put in a Surrey garden ; he who had once climbed peaks and traversed passes, cut steps on a glacier or glissaded down a snow-slope ; who, from an Oberland summit, had seen the sun rise gloriously behind the Lepontines and touch the giants of the Valais with Promethean fire, while the Rhone Valley slumbered far beneath our feet in purple shadow ; or from the mouth of a cave had watched :

the stars about the moon
Look beautiful, when all the winds are laid,
And every height comes out, and jutting peak
And valley, and the immeasurable heavens
Break open to their highest.

It is more than thirty years since I first made his acquaintance in the little village of Frutigen, the portier of the inn accepting a few francs in exchange for this, for many years, most treasured of my possessions. It was my first climbing season, and I had asked advice from a friend, a lady climber of considerable repute, on the important question of whether an axe should be acquired in London before starting, or purchased, so to speak, upon its native heath. She said : ' get one in the country, second-hand ; you are sure to lose your first axe before long ! ' I took her advice ; but as I still have the axe, I am sometimes

tempted to doubt whether what Mr. Collins terms 'elegant females' can be considered true prophets (though Cassandra certainly was a pessimist).

We were bound for Adelboden, then still an unspoilt village, where the local guide, Herr Fähndrich, who was also the village schoolmaster, carried a combined axe and alpenstock, such as I have never seen elsewhere, save in the de Saussure prints in the Club Rooms. Fähndrich was something of a character, and when we parted, bound for Lenk over the Hahnenmoos, I remember his somewhat cynical farewell:

'Adé, Herr Lauf-fort' (for so my name was usually rendered in German-Swiss, with a not unpleasing touch of flattery for a youngster) 'und falle S'ö nit in eine Gspalte herein.' At Adelboden also I have the recollection of meeting Girdlestone, of 'High Alps without Guides' fame, and you may imagine how the coming across such a hero in the flesh—though there was indeed little of this last in the composition of Girdlestone's tall, gaunt frame—would still further arouse the enthusiasm of an embryo hill-worshipper.

In those days Lenk had still much of the charm which caused Hinchliff to sing its praises.¹ Accompanied by two sturdy young fellows named Jaggi, great chamois hunters, my cousin and I climbed the Wildhorn, to witness from the summit an unforgettable sunrise. We also committed the unpardonable sin, according to Mummery,² of returning to Lenk by 10.30 or so the same morning—this was due in part to our own ignorance, in part to the desire of our guides not to miss any of the customary first of August festivities. A few days later, the Jaggis shepherded us up the lower buttresses of the Wildstrubel, to a hollow in the rocks overlooking the Räszi Glacier, where we passed a very pleasant evening and a most comfortable night, and next morning traversed the mountain to the Gemmi and Schwarenbach; here we lay the night, prior to an ascent of the Balmhorn. I remember this well, because, while proceeding along the broad elephantine back of the Zagengrat, we had considerable difficulty in preventing ourselves from being blown off the ridge by a raging Föhnwind; it was my first experience in high places of this demon, and I did not like it. We came down to Kandersteg that evening, and there heard that this same violent monster had that day devoured Meiringen.

¹ 'Summer months among the Alps,' p. 278.

² 'My climbs in the Alps and Caucasus,' p. 113.

Dipping at random into ancient memories, my axe would recollect a terribly wet season, spent at Oberstdorf, in Bavaria. A note in the *ALPINE JOURNAL*,³ signed E. T. C., put me on the track of this very delightful spot, though I did not then know that the writer was one of our foremost mountain painters. In spite of the abominable weather, we made two or three expeditions amongst the little hills of the neighbourhood—never elsewhere have I seen so many chamois as there were here, not even on Mr. Yeld's own hunting-grounds. My guide was a fine upstanding old man, Ignaz Zobel by name, who beguiled some of our evenings together by telling me of his experiences in the Franco-Prussian War, where he had served as a cuirassier. You may give a rough guess at the climbing involved, when I tell you that he carried neither axe nor rope; black shorts and grey footless stockings, leaving knee and ankle bare, added to his picturesque appearance.

Later came a season spent in the lovely Ormonts Valley, when a Cambridge Don (most genial of men and pleasantest of companions) and I, led by Monsieur Marius Lacombe, sometime President of the Diablerets Section of the C.A.S., scaled in turn most of the peaks of the Diablerets, from the Culant to the Sex Rouge. Lacombe's weakness—his only one, so far as I know—was for a cup of tea at the top of the climb, to which end he carried a small kettle and spirit-stove, and the whole strength and ingenuity of the company was enrolled to prevent any breath of air from putting out the flame.

Still, like Sir Bedivere, 'revolving many memories,' my axe would call to mind a certain September when, leaving Martigny just as the first glimmerings of dawn began to pale the brilliance of the stars, we toiled all day in an 'Einspänner' up to the Great St. Bernard, changing vehicles at Bourg St. Pierre, and rattled down the Italian side at night-fall into the beautiful valley of Aosta. In the Hôtel du Mont Blanc, a tall Englishman in grey flannels, whose white head and patriarchal beard rather belied his stalwart form, enquired whither we were bound; and having told him *Cogne*, he first exclaimed at the number of English there that season, and then cheerfully told us we were sure to lose our way going over the hills. 'That man,' I said to R., 'is either a parson or a schoolmaster'; and sure enough, when we did reach *Cogne* the next evening, the first question asked us was: 'Did you meet Yeld at Aosta?' Please remember, this was still a good many years ago, when

³ *A.J.* vol. xvii. p. 135.

we were not yet privileged to write the mystic A.C. after our names.

However, Mr. Yeld was quite right in his forecast, for we had intended to cross the Col du Drinc, and eventually found ourselves coming down the Col de Chaz Seche. Cogne was then still a delightful place: there was an admirable bathing pool a little way up the main valley; and still further up, towards Lila, you get what is, in my humble opinion, one of the most beautiful distant views of Mt. Blanc possible, the steep slopes on either side of the Val d'Eyvia framing 'a thousand shadowy pencilled valleys and snowy dells in a golden air.' We climbed the Herbetet, in cloud, and from the S. Col had a long cross-country ramble to the Victor Emanuel hut—thence the Grand Paradis—then another long, and very stony journey to the Piantonetto Refuge—and then the Tour St. Pierre. After a night's rest at Cogne, the Pousset Huts and the Grivola completed our programme. Of these huts much might be said, had they not already been so delightfully described by a far abler pen.⁴ A day or two at Courmayeur, and we were driven down from the Dôme hut by bad weather. I do not ever remember to have been wetter than when crossing the Bonhomme on the following day.

Again the scene changes, this time to the Oberland, across which we were rambling one July in desultory fashion: a heavy fall of snow had driven us down from Engstlenalp, but at Meiringen mid-summer was regained, and a walk over the Gt. Scheideck to Grindelwald is an abiding memory of intense delight. You have first the beautiful winding road up to Rosenlauri, glaciers glittering above the fir trees, the magnificent buttresses of Wellhorn and Wetterhorn completing the picture; then the toil past the Schwarzwald up to the Col, to the accompaniment of a continual thundering of avalanches down the Gargantuan cliffs of the Wetterhorn; finally, as you top the summit, dramatic from its suddenness, that wonderful view of the Eiger-wand, so ethereal-looking that you can even delude yourself into the belief that it is wavering in the wind. No wonder that John Ball⁵ waxes eloquent on the subject.

A few days later, as we were returning, foiled, from an intended ascent of the Lauterbrunnen Breithorn, having merely passed an excessively uncomfortable night in the overcrowded Mutthorn Hut, we were privileged to assist at an entertaining

⁴ C. Schuster, 'Peaks and Pleasant Pastures,' p. 148.

⁵ 'Central Alps,' Part I, p. 87.

spectacle. It appears that a day or two previously one of the Mürren guides had lost his hat hereabouts, which had been blown across the glacier and disappeared down a crevasse. He had carefully described the spot to one of my men, von Allmen, from Mürren (the other was Graf, of Lauterbrunnen), and this young gentleman was very anxious to retrieve the hat. I subsequently ascertained that there was a wager of 10 fcs. at issue, which accounted for the anxiety. The two Ogi of Kandersteg were also coming down, with a French gentleman in tow; so leaving their superfluous passengers to watch the proceedings, all four guides combined at a rescue. The hat having been located, both ropes were united, and von Allmen was lowered carefully by the other three into the crevasse, whence, after much scratching and chipping, accompanied by torrents of patois from all the principal actors, he was dragged, triumphantly clutching the lost hat. Monsieur and I agreed that the hour spent on the proceeding was well wasted, and even made some kind of compensation for our missing mountain.

Yet again another vignette of the Eiger comes to mind, as we saw it in the early morning, walking up from Gimmelwald to Mürren: the buttresses of the Schwarz Mönch close at hand loomed opaque in the dawn; the pointed pyramid of the Eiger stood out dark purple against a primrose sky; while from the very apex streamed a wonderful corona of solar rays, just before the rim of the rising sun appeared, to touch with flame the topmost pinnacle of the mountain.

Before quitting these 'short and simple annals of the poor,' I wish to recall one further episode in which my axe and I shared, though I, alas, had the baser part. In company with Maurice Décaillet of Marécottes, P. H. Sharpe and I had crossed the Col de Taléfre into the Val Ferret, a crossing perhaps more arduous than it need have been, owing to the abominable nature of the snow that year (1910); we had then made our way over the Col Ferret, where a snow cornice was sufficient evidence of the unfavourable weather, and wandered disconsolately down to Praz de Fort in driving rain, eventually reaching Champex. Here we expected to meet W. S. Sharpe, who was coming out from London, and I asked the hotel concierge to telephone to Martigny accordingly, and let Sharpe know where we were. Next morning, the concierge told me the gentleman was coming up, and would be with us in the afternoon. Sure enough, about three, I was sent for, to find a total stranger in my room, a French gentleman, from Paris, who was equally flabbergasted to meet us! Explanations

ensued : the poor man, who carried axe and rope and a well-filled rucksack, arriving at Martigny bound for Bourg St. Pierre to meet friends, had gone to Sharpe's Hotel, was there set upon by the concierge, told his friends had altered their plans, that he must meet them at Champex ; and here he was. It seems to have been a rare mix-up by the two idiots at either end of the telephone ; but our new friend made light of it, and promptly set off for Bourg St. Pierre ; a proper sportsman if ever there was one ! To my eternal shame, and undying regret, I was so confused at the trouble we had caused him, albeit unwittingly, that he was gone before I realised that we had never even offered the poor man a drink. Needless to say, W. S. Sharpe himself did not arrive until the following day.

It remains to be added (a) that the point of this paper, of which you have probably long lost sight, was to enquire whether from the axe's point of view it were better to be laid upon the shelf to rust, or to be degraded to perform trivial domestic duties ; and (b) that the matter is now open for discussion.

MISS HECHLE'S ALPINE DRAWINGS.

THE collection of some fifty water-colour drawings of the High Alps by Miss Hilda Hechle, which was shown in the neighbourhood of the Alpine Club in February last, might have been appropriately displayed in our own Hall, where it is to be hoped some specimens of her work may be included in the proposed Exhibition this summer.

Miss Hechle has the courage of her convictions, and she has set herself to meet boldly the challenge of the art-critics who still maintain that the scenery of the upper zone of the Alps, of the glaciers and crags above the snow level, is unpaintable.

Most of her subjects have been found in Dauphiné, in the neighbourhood of La Grave ; or among the N.-E. (Swiss) outskirts of the chain of Mt. Blanc. She has ventured to the Brèche de la Meije, and sojourned in the Club Hut above the Glacier d'Orny. Miss Hechle's art, as a rule, is austere ; she eschews prettinesses of foreground and is often content to reproduce unflinchingly the uncompromising noontide clearness of the Swiss atmosphere and the consequent hardness and crude colours of many Alpine foregrounds. But if born a topographer and a realist, she has gained eyes for the beauty

of the mountains, for the happy and fortunately not rare moments when the veil of dawn or twilight, or the blue and black scarves of mist, are drawn between them and their frequenters.

'Winter Evening, Adelboden' and 'The last gleam, Col d'Orny,' were attractive drawings likely to awake memories of similar visions in the minds of mountain-lovers. Of a delicate but more sinister aspect was the green-gold sky, prophetic of coming bad weather, in 'The Aiguille du Tour.' One of the most pleasing subjects was, 'Lac de Champex, a rainy day,' where the blue outline of a distant range was mirrored in the still waters of a pine-girt lake. 'Le Lac de la Pucelle' represented with fidelity the (*experto crede*) almost incredible blueness of that gemlike pool. 'The Grand Combin,' a great rose-coloured block against a pure, pale sky, was, perhaps, the most striking presentation in the gallery of the grandeur of a single peak. 'From the Cabane de Bertol' exhibited a tumbled confusion of rock, snow and cloud, a medley of dark grey and blue masses. 'The Aiguille de Chardonnet' was a sound and pleasing drawing, and 'Above the clouds from Pointe d'Orny' showed a hand familiar with the broader aspect of the heights. Glaciers and séracs hold no secrets or terrors for Miss Hechle; she is as familiar with the white bosses and blue depths of the tossed névés as with the ranged lines of crevasses of the lower icefalls. She reproduces both with equal knowledge, but the former with, perhaps, the greater sympathy. When she has to deal with cliffs and rocks close at hand her treatment is less satisfactory. Not unfrequently she falls into the modernist tricks of defining objects by hard, black outlines, and misrepresenting natural structure by drawing the bare crags as rectangular blocks, fresh from a quarry and piled anyhow one on another.

We shall look forward with interest to Miss Hechle's future career. At present her weak point, beyond this occasional crudeness in rock drawing, is a tendency to pay too little attention to selection and composition in planning her pictures. In an article in this JOURNAL (vol. ix, 1878) on Alpine Art—which Ruskin was kind enough in a rash moment to describe as 'the most sensible he had ever seen' (Complete Edition xxvi, 566-7)—we wrote as follows: 'To copy Nature in the Alps, to be clear but not crude, forcible without violence, delicate as well as sublime, the painter must learn a new lesson in the depth and arrangement of his colours. . . . Our painter of the Alps must combine many qualifications. He must not

only be the close friend of the mountains, knowing them in all their moods ; he must also have a quick and sure perception, so that, when it is impossible to paint all, he may select and insist on the most essential and characteristic features, and a power of composition equal to dealing with great and often difficult subjects.'

Miss Hechle possesses several of the qualifications here suggested. She sees the mountains with fresh and understanding eyes ; she is capable of entering into their more intimate and sympathetic moods. Let her cultivate this intimacy rather than linger over the harsher aspects they assume to the eyes of 'the harriers of scenery,' and of the school whose highest endeavour is to make a pattern out of mean ugliness.

D. W. F.

THE AMERICAN MEMBERS OF THE ALPINE CLUB.

Précis of Minutes of Meeting held December 6, 1924.

THE Autumn Dinner of the Association was held at the University Club, New York City, on Saturday evening, December 6.

The members present were : Messrs. Allston Burr, Allen Carpe, J. Ellis Fisher, Henry S. Hall, jun., Howard Palmer, Norman H. Read, H. B. de Villiers-Schwab, William Williams, and Joseph Wood, jun. ; the guests being Messrs. L. G. Day, John Hall, W. S. Ladd, and J. M. Thorington.

In the absence of the Chairman, Professor Fay, the Vice-Chairman, Mr. Burr, occupied the seat of honour, and at the beginning of dinner mentioned the great loss to the Club through the death of Mallory and Irvine on Mt. Everest, everyone then standing for a moment in silent tribute.

Directly after dinner, there being no business to come before the Meeting, the speaker of the evening was introduced. Mr. Wood proceeded to give an account of a traverse of the Aiguilles Rouges d'Arolla and of an adventurous descent of the Dent Blanche by the Ferpècle Arête, showing, in addition, a number of slides taken in the Bernese Oberland. Following a pause, Mr. Wood described a visit made by Mr. L. G. Day and himself in 1911 to Petra, the ancient rock city of the Nabotaens (in Arabia), illustrating his extraordinarily fascinating story with

coloured slides, taken by himself and said to be the only ones ever shown in the United States.

The assemblage broke up about 11.15 p.m., having informally agreed that the next Meeting should be held in Montreal in May 1925.

H. B. DE VILLIERS-SCHWAB,
Hon. Sec.

IN MEMORIAM.

SIR JAMES RAMSAY, BT., OF BAMFF.¹

WITHIN a few months of each other our two 'equal fathers' of the Club—both elected in 1859—whose portraits form the frontispiece of vol. xxxiv. have left us. Born in 1832 of an old Scottish family whose lands of Bamff in Perthshire have continued in their possession by direct descent in the male line since 1232, Sir James, at his death, had nearly completed ninety-three years. His younger brother, George Gilbert Ramsay, Professor of Humanity at Glasgow, predeceased him in 1921 and had been a member of the Club since 1876. His eldest surviving daughter, Agnata Frances Ramsay, famous as the only candidate to be placed in the first division of the first class of the Classical Tripos of 1887, married in the following year Dr. Butler, Master of Trinity and equally well-known as Headmaster of Harrow. His eldest son, a lieutenant in the Black Watch, was killed at Magersfontein in 1899. His successor, Major James Douglas Ramsay, served in the Great War in the Scottish Horse. Another of his daughters is the Duchess of Atholl, M.P., Parliamentary Secretary to the Board of Education.

Sir James will be known to History as the author of books² which exhibit such learning and such infinite research that they earned the name of 'the Scholar's History of England.' Together they cover with the minutest detail, that the existing records of such 'Dark Ages' permit, the history of our country from the earliest times to the accession of Henry VII.

But it is as a mountaineer that, in addition, he occupies a great place in our annals, and mainly for one memorable expedition. Fortunately the account of it, written at the time when all the impressions were at their freshest, survived and was published

¹ A portrait taken at forty appeared in *A.J.* xxxiv. opp. 69, and one taken at eighty-nine opp. 1. The names were unfortunately transposed in the former (see correction xxxiv. 345).

² *Lancaster and York* (1892); *The Foundations of England* (1898); *The Angevin Empire* (1903); *The Genesis of Lancaster* (1913).

nearly fifty years afterwards in 'A.J.' xxvii. 261 *seq.* We find the active young Scot of twenty-three at Courmayeur concerting with the guides to make a route up Mont Blanc from the Italian side by what is now known as the Midi route. They bivouacked on the Col du Midi, crossed the shoulders of Mont Blanc du Tacul and Mont Maudit, actually met a Chamonix party at the foot of the Mur de la Côte, and went some distance up the Mur itself, only turning back short of the summit owing to the guides' anxiety to get back to their bivouac before dark. I commented years ago ('A.J.' xxxii. 12 note) on the hypercritical refusal to credit his party with the establishment of the route. The narrative shows a fearless open-eyed attitude towards the hardships and novel experiences of the expedition which, at that date, could only be equalled in the great Charles Hudson himself.

His Alpine work thereafter was of a less stirring kind, but in 1872, as he told us in detail, long after, in 'Recollections of the Engadine in 1872,' 'A.J.' xxxiv. 68 *seq.*, he had a fine season, including the first ascent, alone, of the Pizzo di Verona.

In 1905 he crossed the Col du Géant once more, fifty years after his memorable expedition.

I met him but once, and then at a Club meeting when he must have been nearly eighty. He was still upright, keen and active-looking with much of the distinction of the *ancien régime* about him that seems to linger in some of the old families across the Border. But we had much, to me very charming, correspondence over his papers in the JOURNAL.

The Club can well be proud of its distinguished son, its faithful adherent for sixty-six years.

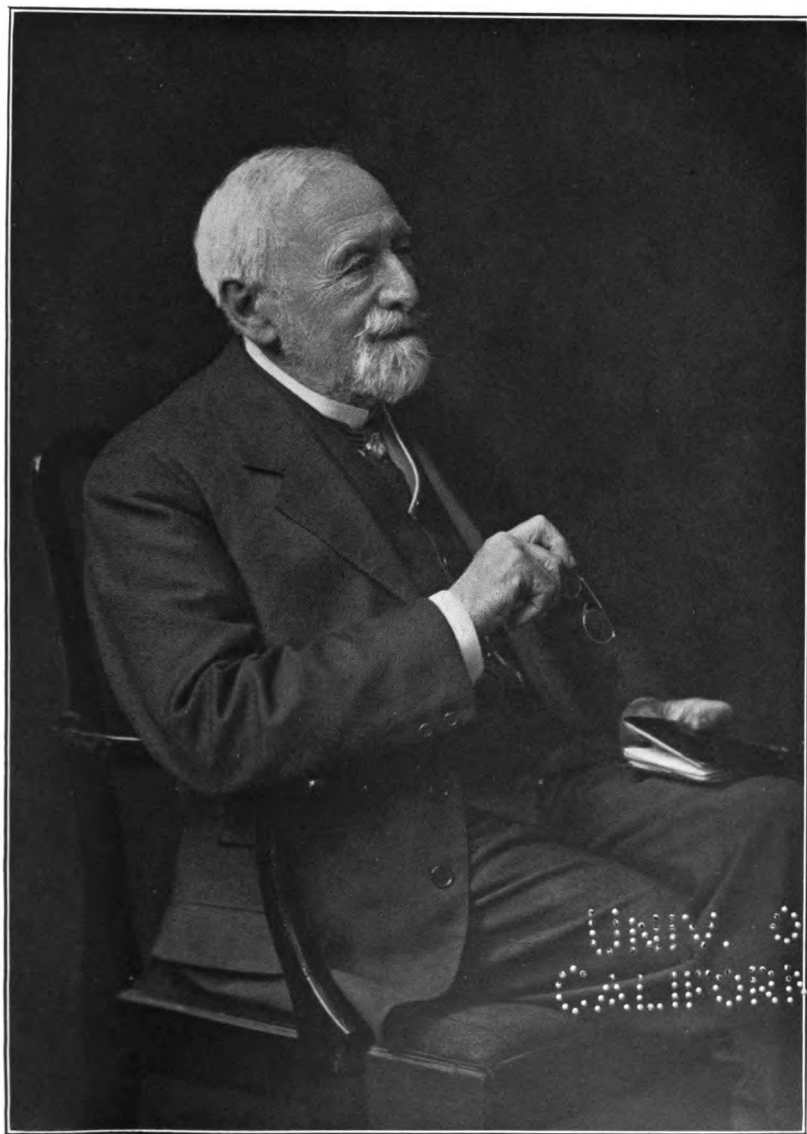
J. P. F.

THE RT. HON. SIR J. CLIFFORD ALLBUTT, K.C.B., M.D.,
F.R.S.

SIR CLIFFORD ALLBUTT, the beloved and venerated leader of the Medical Profession, died at his residence St. Radegund's, Cambridge, on February 22, in his 89th year.

At the time of his death he was, without doubt, the most important and courtly figure in British medicine. His writings had authority here and abroad, and he had many friends and admirers overseas. He was a charming speaker, a learned man who carried his learning lightly and looked out of his clear, blue eyes with cheerful greeting in every interview.

Allbutt was the son of the Rev. Thomas Allbutt, sometime Vicar of Dewsbury, Yorkshire, who married Marianne, daughter of John Wooler, of Dewsbury, and was a friend of the naturalist, Waterton. His parents were always gratefully remembered by Allbutt, and when honours came to him I have heard him express regret that those who had made such sacrifices for him could not share his pleasure.



THOMAS CLIFFORD ALLBUTT.

THE GREAT
ABYSSAL

His school days were passed at St. Peter's, York, then under the headmastership of Archdeacon Hey, the entomologist. In 1856 he gained a Classical Scholarship at Gonville and Caius College, and later took First Class Honours in natural science. While at St. George's Hospital he formed friendships with Lockhart Clarke and G. H. Lewes.

He kept his friendship with Lewes until his death in 1878—George Eliot, writing of her tour in Yorkshire in 1868 says: 'We went from Leeds to Bolton—our visit to Yorkshire was extremely agreeable—our host, Dr. Allbutt, is a good, clever, and graceful man, enough to enable one to be cheerful under the horrible smoke of ugly Leeds.'

Allbutt visited at a later date George Eliot and Lewes at their Witley home and there is some evidence that he was the original of Lydgate in 'Middlemarch.'

Allbutt knew Charlotte Brontë, who died in 1855, when he was nineteen, and as a small boy he remembered her sister Emily. He inherited Charlotte Brontë's letters to Miss Wooler and her sister Catherine. These letters he presented to the Fitzwilliam Museum, together with an inscribed first edition of 'Villette.' Sir Clifford was in sympathetic touch with many literary and artistic friends, such as Thomas Hardy and G. F. Watts.

At Leeds he led a strenuous life as hospital physician, as a clinical observer, and as a great teacher. He was actively engaged in clinical research, and writing papers, while carrying on for many years a very large consulting practice. His great grasp of knowledge from observation and wide reading included the appreciation of what surgery could do for his patients, and Yorkshire surgery has been continuously famous since his day.

He published, in his early days, a work on the use of the ophthalmoscope, and in 1873 he read before the Royal Society a paper on the effect of exercise on bodily temperature from observations made during ascents of Mt. Blanc, using a small thermometer of his own invention. His conclusions were that the normal effect of exercise was to increase temperature slightly during the day, and to favour the early occurrence of the evening's fall when the work was done. When the work continued to 6.30 or 7 the fall was postponed until the time of rest.

After thirty years of observation on heart stress in great exertion, he was of opinion that the importance of muscular effort as a factor in cardiac injury had been much exaggerated; and with regard to blood pressure, that muscular exercise tends in the long run not to *raise* but even to *reduce* the mean arterial pressure in the twenty-four hours. On the other hand, he showed that in men who, as athletic habits are laid aside, lead sedentary and overfed lives the blood pressure is prone to rise. In 1870, the year that he joined the Alpine Club, he wrote that such acute strains as mountain climbing, and the like, were apt to tell rather on the right side of the heart,

the chronic effect of years of labour on the left side, though he was well aware that an aortic valve might give way as the result of overstrain with disastrous effect on the left heart muscle.

Allbutt's chief recreation in his active days was climbing. In an obituary notice of that all-round sportsman T. S. Kennedy he gives an account of an adventure which is worth recording: 'Kennedy made two serious slips, once on the Dent Blanche, when he was with Michel Croz; the other was with me, when on an easy grass slope we were properly unroped, while looking at something which interested him he tripped, fell, and began to roll; in two more seconds he would have been dashed to pieces on the Viesch Glacier, some thousand feet below us. Old Christian Almer, who was a little ahead, turned at the sound, and, throwing himself at full length on the grass, seized Kennedy by the collar, and the honest frieze (Grindelwald-spun, if I remember aright) held firm. He silently shook hands with Almer and turning to me said: "Please never let my wife know of this."' After this warning Allbutt, when walking in the Lakes, carried a stout stick 41 inches long with a prong at the handle; he said to me: 'it has helped me up many a steep slope.' He enjoyed walking and was one of the band of Sunday trampers with Leslie Stephen.

In later years Allbutt, in unveiling at Chamonix a memorial to C. E. Mathews, and recalling his friend's admiration of Mt. Blanc, which he had ascended twelve times, made also generous mention of Melchior Anderegg, not forgetting François Devouassoud, whose merits are so faithfully recorded by Mr. Freshfield. A paper on François in the 'A.J.' of 1917 shows how vividly Allbutt recollected his Alpine adventure in bad weather on the snows of Mt. Blanc, when his feet were numbed by frost-bite, and he suffered the great pain of restoring circulation, reassuring as to the recovery of the foot, but leaving reminders in after years at every frost. He notes how François was 'partly reconciled to their defeat when the sad news came down that on that day, but little later, a large party of guides and tourists, eleven in all, were in a *tourmente* swept into oblivion from or near the Mur de la Côte.'

As Regius Professor of Medicine at Cambridge Allbutt began in 1892 continuous labour for the welfare of the School and the Profession. With the help of Sir Humphry Rolleston and other writers he edited that 'System of Medicine' which is a monument of learning.

It was refreshing to note the welcome he gave to papers on the history of medicine, and to all the new laboratories, including that of the Pathology of Animals, which the benefaction of the Rockefeller Trustees enabled Cambridge to establish.

During the war his services were valued at various hospitals in the investigation of the disorders of men broken down in the trenches with heart failure, and other results of overstrain. He was so much impressed by the careless style of the theses he had to criticise that he wrote a little treatise on the composition of scientific papers, which has been appreciated by many a thoughtful reader.

A plea for the preservation of the simple beauties of Grasmere was his last published letter in the *Times*, a week or so before his death. In Lakeland he said 'he had walked almost every year since the age of fourteen.' Mr. Hough of Ambleside wrote to me about Allbutt's walk over Loughrigg, 1000 ft. above Windermere, last spring, when he was '88 if I live to July.' The expedition led over many streamlets and rocky slopes with occasional stone walls, and he enjoyed every bit of it, quoting 'Long hast thou been a darling haunt of mine.'

His eagerness was delightful, and on a sunny day, writes Mr. Hough, 'I called at his lodgings in the morning; Lady Allbutt met me with the remark "Oh! he has started off alone, he thought you were detained." On the way Allbutt pointed out the distant tops all of which he had climbed in his time. I left him in Ambleside, thoroughly delighted with the expedition and shewing no apparent fatigue.' In December Sir Clifford wrote: 'This [walk] I fear will never be repeated. We are both well, I am *very well*, but cannot now walk far; we have, therefore, not yet discussed a possible journey to the Lakes for next Easter. I shall then be near the entrance to my ninetieth year and we may shrink from a long journey. And I could do no more than look at the hills—still, that would be *something*.'

In the last pages for the JOURNAL that Allbutt wrote, on the death of his friend, Dr. Bonney, he added, at my request, some sentences on the affection of Bonney for our first President, John Ball (1858), bringing these old Alpine friendships down to our own time.

It is always interesting to note the habits of a man with such alertness of mind and body carried on to the very end of a long life. For the past ten or fifteen years he was very sensitive to tea, coffee, and tobacco. He never smoked, rarely took wine, though he was a good judge of claret. He ate fairly well at table, but took little meat.

He was a lover of art and music, and fortunately, though deafness made some difficulty in conversation, he retained his power of hearing music.

Sir Clifford married in 1869 Susan, daughter of Thomas England, of Headingley. They had no children.

Sir Clifford is succeeded in the Regius Professorship by his old friend Sir Humphry Rolleston.

Many of us would like to see in print a sermon Allbutt preached in the Church of St. Edward the King in Cambridge, in 1917. There was a great crowd to hear a modern *Religio Medici*.

When the last valediction is over, when you have stood in grief at the graveside of so old a friend, there soon come the consoling thoughts of a life of beneficence, of pleasure in work for the good of others, with honours justly given, a life spent, as Francis Bacon says, 'for the Glory of God, and the relief of man's estate.'

G. E. W.

MRS. FANNY BULLOCK WORKMAN.

AMONG Himalayan travellers the name of this valiant and indefatigable lady, coupled with that of her husband, the comrade and coadjutor of all her journeys, will continue to hold a high place. They were travellers and wanderers inborn. Their wider wanderings seem to have commenced with a bicycle journey in pre-motor days through Spain. A similar journey, of 16,000 miles, through Ceylon, India, and Java, followed, described in 'Through Town and Jungle.' From this they evidently imbibed that fascination for mountain exploration which, between 1899 and 1912, resulted in seven great expeditions, each covering several months. The first of these—in 1899—led through Baltistan, Ladakh, Nubra, Suru and Sikkim, and was described 'In the Iceworld of the Himalaya' (1900). In 1902 and 1903 they explored and followed to its source the Chogo Lungma glacier in Baltistan, two mountains, Mt. Chogo, 21,000 ft., and Mt. Lungma, 22,568 ft., being ascended, while the Doctor reached 23,292 ft. on a 24,500 peak, his age at the time being fifty-six—a record, anyway, for age. Much new country was visited, including the Hoh Lumba, Sos Bon, and Alchori glaciers. These expeditions are chronicled in 'The Icebound Heights of the Mustagh' (1908).

In 1906 Nun Kun Massif and regions were visited, and the second highest peak, approaching 23,000 ft., ascended, whereby Mrs. Bullock Workman established for her sex a record that is not likely to be soon challenged. It is recorded in 'Peaks and Glaciers of Nun Kun' (1909).

In 1908 the Hispar glacier was ascended and explored to its sources about the Hispar pass, as well as its branches. An ascent of 21,350 ft. was made. The Hispar pass was crossed and the Biafo glacier descended, making a total ice stretch of 75 miles. It is recorded in 'The Call of the Snowy Hispar' (1910).

The two following years found the travellers, by all these experiences, added to the Doctor's scientific attainments, admirably qualified to undertake in 1911 and 1912 journeys which rank with the best of Himalayan journeys—in 1911 exploration of glaciers in the region between the Baltoro glacier and Saltoro valley including the Aling, Mashherbrum, Khondokoro, Chogo Lisa, Lower Kaberi and Dong Dong glaciers. The Bilaphond glacier was ascended, the pass crossed, and a descent made to the Rose or Siachen glacier, the western affluents and the long eastern affluent of which were explored.

The 1912 expedition, wholly due, I understand, to the initiative of the lady herself, was of a more ambitious nature. The Siachen glacier and its other branches were explored over its whole length of 50 miles, and the Indira Col (20,860 ft.) at its head, on the watershed between the Indus and Turkestan basins, reached. Even more interesting was a visit to the Turkestan La (19,209 ft.) at the head of



MRS. F. BULLOCK WORKMAN.

THE END
OF THE WORLD

the most northerly of the eastern affluents, which is probably the Col aimed at by Sir F. Younghusband in his memorable journey in 1899. The record, including an admirable map, is in 'Two Summers in the Ice Wilds of Eastern Karakoram' (1917), which I reviewed at length in 'A.J.' xxxii—the book contains a valuable treatise by the Doctor on the physiographical features of the glacier basins visited. He is also author of many article in technical journals. The Workmans have written their names large in the annals of Himalayan exploration. They have criss-crossed the map of Kashmir from Srinagar to the Karakoram Pass, from Leh to Hunza. Their tenacity, enterprise, and contributions to the adventure and scientific results of exploration deserve warm feelings of respect.

Their journeys are doubly remarkable when we consider that they were made and organized entirely by themselves, without official assistance of any kind, and, indeed, at times in face of local official opposition.

To do justice to their work I cannot do better than quote the opinions of Himalayan travellers of 'world-wide reputation' as expressed in the *Geographical Journal*, the official organ of the famous R.G.S.

Geographical Journal, XXXII., pp. 71-72 ('Ice-bound Heights of the Mustagh'): 'The authors have now devoted five long seasons to the exploration of the mountains of the kingdom of Kashmir. Their work has been in a high degree laborious, and their accomplishment considerable. They have made detailed surveys of good quality of many parts of these most intricate ranges. They have repeatedly reached very high altitudes, and they have added largely to our knowledge of what is perhaps the most notable mountain region in the world. From time to time they have given account of their doings in papers read to our society, and published in the *JOURNAL*, so that there is no occasion here to repeat in briefer form what has already been set forth at more length in these pages.'—(Signed) MARTIN CONWAY.

XXXV., pp. 435-436 ('Peaks and Glaciers of Nun Kun'): 'The whole story in agreeably told; where reference to the great work of the Indian Survey Department is made (p. 162) it is in a proper and appreciative spirit. The map is ample for its purpose, whilst the illustrations, made in Germany from photographs taken by the authors, deserve much praise.'—(Signed) W. BROADFOOT.

XXXVII., p. 304 ('The Call of the Snowy Hispar'): 'Few persons, if any, have made more adventurous expeditions into the north-western part of the Himalaya than Dr. and Mrs. Workman; the results obtained, specially in the detail of main glaciers and their feeders, have been of much use in filling in blanks or correcting somewhat imaginative sketches, made in 1855-64, when Kashmir was surveyed by a party under Captain T. G. Montgomerie, R.E., of the Great Trigonometrical Survey of India. . . . The map from the original drawing of Dr. M. Koncza is beautifully clear, and is a

useful contribution to our imperfect knowledge of these regions. . . . The book is pleasantly written and full of interest to mountaineers; the illustrations are excellent and well selected: some, such as that at p. 224 of "Lakelets at Upper Hispar," are singularly instructive, and of a quality to match those in Dr. Sven Hedin's "Scientific Results" of his journeys in and about the Takla Makan, than which no higher praise can be given.'—(Signed) W. BROADFOOT.

Mrs. Bullock Workman lectured on her explorations before the principal Geographical Societies and Alpine Clubs of Europe, the United States, and India. She was honorary or corresponding member of innumerable societies and clubs, and was awarded gold medals and other decorations by most of the principal societies and clubs of the same countries. At the request of the Société de Géographie, Paris, she was created by President Loubet Officier de l'Instruction Publique et Beaux Arts de France, with Academic Palms.

It is not to be expected that a woman of such determination and energy, when assailed or assailing, would be other than a very doughty fighter, as, indeed, became her pure New England ancestry. She herself felt that she suffered from 'sex-antagonism,' and it is possible that some unconscious feeling, let us say of the novelty of a woman's intrusion into the domain of exploration so long reserved to man, may in some quarters have existed. Whatever the cause, she was involved at times in warm paper arguments. She was no 'quitter,' and her enthusiastic nature induced her to sustain her opinions by vigorous arguments based on facts which it was difficult to controvert. The Doctor wielded a pretty blade, never so keen or so quick as in her support. Thus in time there tended to arise in certain high and serene circles an atmosphere, shall we say, of aloofness?

But they who got to know her well could not fail to recognize her warmness of heart, her enthusiasm, her humour, her buoyant delight in doing. They will be certain that during her long illness, dating from 1917, due doubtless, in a measure, to the hardships of her many journeys, and culminating in her death at Cannes on January 22 last, these qualities will have sustained her to bear, with her old fortitude and dauntless courage, the tedious and unaccustomed inaction and suffering.

To the Doctor, her devoted companion of forty-four years, always keen to help her plan and carry out her great journeys, putting her always in the place of honour, ever her devoted supporter, we venture to express our warm sympathy, and to assure him once more that among us who know the great mountains her name and his will ever be linked together as having done great things and deserved well of their generation.

J. P. FARRAR.

SIR JAMES OUTRAM, BT.

1864-1925.

SIR JAMES OUTRAM, who died on March 12 at Victoria, B.C., was the eldest son of Sir Francis Boyd Outram, and grandson of Lieut.-General Sir James Outram, one of the saviours of Lucknow. His father, whom he succeeded as third baronet in 1912, was in the Bengal Civil Service, and also saw active service, and was wounded, during the Mutiny.

Outram was born in 1864, educated at Haileybury and Pembroke College, Cambridge, and ordained in 1889. From 1896 to 1900 he was vicar of St. Peter's, Ipswich. He has left traces of his early climbing days in two notes in the *ALPINE JOURNAL*¹ on expeditions made by him in 1899. In the following summer he went to Canada, which was his home for most of the rest of his life. He at once took to climbing, his most noteworthy expedition being the first ascent of the N. peak of Mt. Victoria. In 1901 he successfully attacked two of the three great Ottertail peaks, Mt. Vaux and Mt. Chancellor, but failed on Mt. Goodsir, the monarch of the range. He then joined Edward Whymper in his principal new ascents in the Yoho-Waputik groups, besides climbing several other virgin summits in the same region, and Mt. Cathedral on the other side of the railway, and finally brought a long and brilliant season to a close with the conquest of Mt. Assiniboine.² In 1902 he travelled far to the N., to the Columbia Icefield and the headwaters of the Saskatchewan and the Athabasca, joined Dr. Collie's party in the first ascents of Mt. Freshfield and Mt. Forbes, and in addition climbed no less than eight other great peaks, among them Mt. Columbia, Mt. Lyell, and Mt. Bryce.³ He wrote papers on Mt. Assiniboine and Mt. Bryce,⁴ and in 1906 published 'In the Heart of the Canadian Rockies,' a complete account, based mainly on the original narratives of himself or others, of the exploration of the whole range up to that date.

His great days as a climber came to an end in 1902, but his love of the mountains was unabated to the end. In 1916 he led a party of 'graduating' members on the first ascent of Mt. Brett, and in 1922 he joined a similar party in the ascent (also new) of Mt. Tipperary. He was Honorary Secretary of the Alpine Club of Canada in 1920-22, and in the last volume but one of the *Club Journal* we find an enthusiastic review by him of the 'Climbers' Guide to the Rocky Mountains,' and an equally enthusiastic letter in advocacy of the Mt. Logan Expedition.

Mr. Henry S. Hall, Jr., writes to Captain Farrar: "You have probably heard of the death of Sir James Outram on March 12.

¹ *A.J.* xix. 624-25.² *A.J.* xx. 541-46.³ *A.J.* xxi. 337-40.⁴ *Ibid.* pp. 102-114, 464-75.

He had lived in Calgary until this winter, but had moved to Vancouver only a short time ago. He, with de Villiers-Schwab, Prof. and Mrs. E. V. Huntington of Harvard, Mr. and Mrs. T. D. Cabot, Mrs. Hall and myself, went through from Lake Louise to Mt. Robson (via Jasper) by trail last summer. Sir James had great pleasure in identifying many of the peaks, of which he had made the first ascents twenty-two odd years before, but had not seen since."

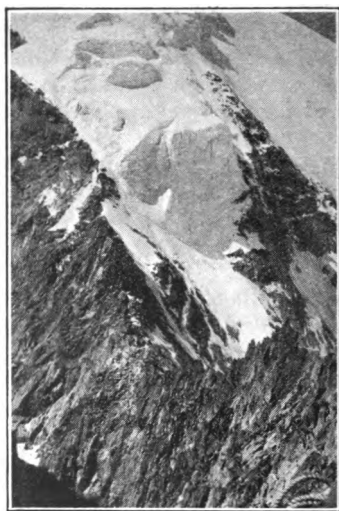
NEW EXPEDITIONS.

Bernese Oberland.

POINT 3468 (a prominent rock-peak, above the Beich Firn, on the N. arête of Nesthorn). On July 15, 1924, Messrs. M. de Selincourt



Point 3468 from Lower Part
of S. Ridge.

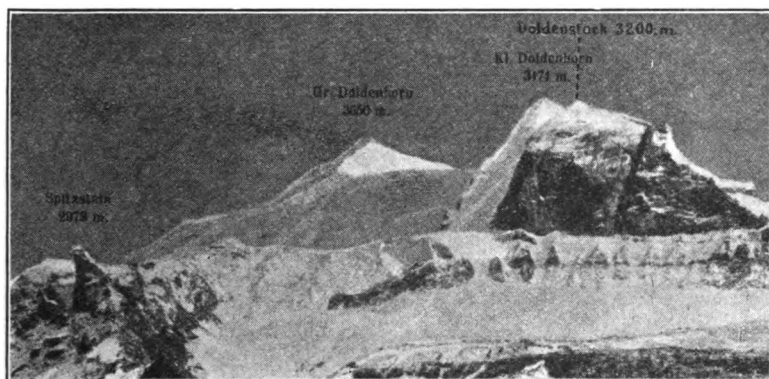


Lower Part of N. Ridge of Nesthorn
from Point 3468.

and H. Booth ascended this peak by the most southerly of the three ridges which descend towards the Oberaletsch hut. This affords an excellent rock-climb. On the summit there were no signs of any previous ascent. The descent was made by the col between the Nesthorn and Pt. 3468 and the glacier to the W. of this.

FUSSHÖRNER Pt. 3106. On July 13, 1924, Messrs. M. de Selincourt, G. C. Carlisle, and H. Booth ascended Pt. 3106 (No 8)¹ from the gap between it and the next peak (No. 7).¹ It is not as hard as it looks with the exception of one short bit.

DOLDENSTOCK² (ca. 3200 m. = 10,496 ft.). August 1, 1921. Mr. H. Runge, with Abraham (junr.) and Adolf Müller of Kandersteg. This peak is on the outlying spur of the Klein Doldenhorn and faces Kandersteg. Left Doldenhorn hut 3.15 A.M. Biberg Pass 7-7.30. Traversed Faulbach glacier to the foot of the big wall facing S. below the arête joining Kl. Doldenhorn and Doldenstock. Crossed bergschrund and reached, up ledges, platten, and couloirs, snow col on arête 9.45-10.30. Followed the serrated rock arête to top of Doldenstock. Many gendarmes, interesting scrambling.



From the N.W.

One big red gendarme, the mushroom top of which prevented direct ascent, necessitated very exposed traverse on left. In ignorance of ground beyond, a piton was used to secure belay. The traverse led into a small, steep couloir, by which top of gendarme was gained and the gap beyond by spare-roping down (advisable leave rope for return), thence over more gendarmes to final summit, not visible from Kandersteg, and to a lower summit (visible) 12.0. Built cairns on both. Passage of whole arête took $1\frac{1}{2}$ hrs., return 1 hr.

A traverse might possibly be made either by the ridge leading down to Biberg Pass or by a broad, steep couloir to the Faulbach glacier.

¹ *Bernese Oberland*, vol. i. part i. p. 209, new edit., 1910, by Mr. Coolidge.

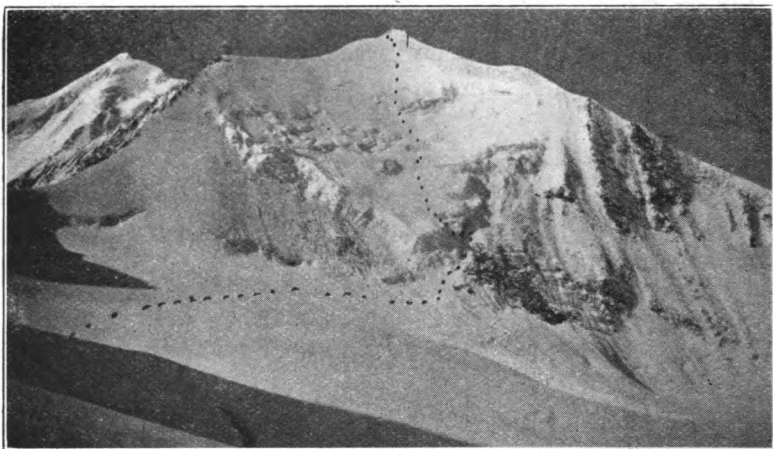
² *Bernese Oberland*, vol. i. part ii., new edit., 1910, by Mr. Coolidge.

Pennines.

BIESHORN (4161 m. = 13,648 ft.). First ascent by the N.E. face of 'Pointe Burnaby' (about 4100 m.), an advance summit of Bieshorn.¹ Sept. 21, 1924. Mr. E. R. Blanchet, with Kaspar Mooser of Täsch and Rafaël Lochmatter of St. Nicolas.

The route is only possible in favourable conditions. The height of the N.E. face is about 700 m. A *vertical* ice-wall, about 100 m. high, cuts the face vertically above the rimaie.²

This ice-wall projects at one point like a bastion. The left flank



of this bastion was climbable without danger, but demanded prolonged cutting in hard ice. The right flank, although exposed to overhanging séracs, was much shorter. We chose it. While cutting up the actual flank of the bastion a very violent cracking noise accompanied by violent oscillation disturbed us at a moment when we could not retreat. Above the bastion the slope eased off and allowed a rest, about the level of Biesjoch. When the slope steepened the snow was generally good, the Föhn having rendered the heavy snowfall of August compact, adherent, and not too hard. Such good conditions are probably exceptional. Almost without exception the steepest bits were excellent snow. Near the summit hard ice, an hour's cutting, *très pénible*. About a third of the way up the slope we crossed a very long crevasse by apparently the

¹ In the illustration, taken from the Bruneggjoch, the highest point of Bieshorn is masked by this summit.

² This did not exist three weeks previously, the slope ending more easily.

only bridge. Time,³ rimaie 10, Pte. Burnaby 3.10 P.M. Descent to Zinal.

‘Mooser, who led, exhibited remarkable coolness when the cracking occurred, and cut up this dangerous bit with a delicacy and calm which probably saved the situation.’

VARIOUS EXPEDITIONS.

Bernese Oberland.

NESTHORN (3820 m. = 12,533 ft.), BY N. AND S.E. ARÊTES. On July 19, 1924, M. de Selincourt and H. Booth, with Theodor Biner of Zermatt, left the Oberaletsch hut at 1.50 A.M., and reached the summit of the Nesthorn at 7.5 A.M. by the N. ridge (route 2 of Mr. Coolidge's ‘Bernese Oberland,’ vol i. part ii., p. 143). Beyond the cutting of a few ice steps it presented no difficulty.

‘We gained the foot of the N. arête at the col between Pt. 3468 and the Nesthorn by means of a chimney almost below the col. Thence we kept to the rocks as far as we could, till we could traverse to the right to above the ice cliffs on the right of the line of the arête on to snow slopes of moderate inclination. This point is about three-quarters of the way up, and is by the prominent rock tower just to the N. of the summit. Up these snow slopes we walked to the summit, taking two hours from the bergschrund (below the chimney below the col) to the top.’

The descent was made by the S.E. ridge. A shallow couloir to the N. of the ridge was followed, to a point a little above the col (Pt. 3533), whence the crest of the ridge was gained at the col. Pt. 3617 was reached by traverses on the N. face, where the rocks were easy, though loose. The ridge itself was followed from Pt. 3617 to the foot of Pt. 3576. To avoid this ascent a long traverse was made along the S. face to a point on the ridge S. of Pt. 3517. A direct descent to the Unterbächen glacier was made with the help of a spare rope. Belalp was reached at 4.20 P.M. The conditions on the ridge were perfect, no ice or snow on the rocks to speak of.

As far as Pt. 3617 time was saved by the traverses on the face under these conditions, but probably no advantage is to be gained by not following the ridge afterwards.

³ The caravan slept at the Boden Alp (above St. Nicolas), which lies much too low (1899 m.), although good.

ALPINE NOTES.

'BALL'S ALPINE GUIDE,' THE WESTERN ALPS.—The edition (1898) by Mr. Coolidge covers the Maritimes, Graians, Dauphiné, Mt. Blanc group, and Pennines to the Simplon. With maps of each district, 1 : 250,000, and a general map. Price 10s., or 10s. 4d. post free. Obtainable from any bookseller or the Assistant Secretary.

'BALL'S ALPINE GUIDE,' THE CENTRAL ALPS. PART I.—The edition (1907), by Rev. A. A. Valentine-Richards, covers Switzerland N. of the Rhone and the Rhine. With nine maps, 1 : 250,000, and a general map. Price 5s., or 5s. 4d. post free, or unbound 2s. 6d., or 2s. 10d. post free. Obtainable as above.

'BALL'S ALPINE GUIDE,' THE CENTRAL ALPS. PART II.—The edition (1917), by Rev. G. Broke, covers the Alpine regions S. and E. of the Rhone and Rhine as far as the Adige, *i.e.* the Lepontine, Grisons, Rhaetian (including Bernina), Ortler and Adamello groups. With nine maps, 1 : 250,000, and a general map. Price 5s., or 5s. 4d. post free, or unbound 2s. 6d., or 2s. 10d. post free. Obtainable as above.

MR. COOLIDGE'S edition of BALL'S 'WESTERN ALPS' is still the only complete guide to the country described, and, save as to the detail of inns and club huts, is as instructive and sufficient to the mountaineer—and to the climber with eyes—as when published, while the maps are admirable.

The volumes of the 'Central Alps' are, for the mountaineer, the best general guides to the districts described and contain the well-known Ravenstein maps.

'GUIDES DES ALPES VALAISANNES.'—

Vol. I. Col Ferret to Col de Collon, by M. Kurz, 10s.

Vol. II. Col de Collon to Col Théodule, by Dr. Dübi, 9s.

Vol. III. Col Théodule to Weisstor, by Dr. Dübi, 8s.

Vol. IV. Col Simplon to Furka, by M. Kurz, 8s.

At Stanford's, Long Acre, W.C. 2.

LES AIGUILLES DE CHAMONIX (GUIDE VALLOT).—Par J. de Lépiney, E. de Gigord and Dr. A. Migot, with 39 route-marked illustrations and 2 outline maps. Paris : Fischbacher, 33 rue de Seine. 1925. 20 fr., or from the Assistant Secretary, 23 Savile Row, 6s. post free.

This admirable Climbers' Guide is a complete monograph of the Aiguilles and may be said to be a much enlarged and more elaborate 'Kurz' or 'Mont Blanc Führer.' See Review in present number.

A CLIMBER'S GUIDE TO THE ROCKY MOUNTAINS OF CANADA.—By Howard Palmer and J. Monroe Thorington, published for the American A.C. by the Knickerbocker Press, N.Y., 1921. This very useful summary, with several maps, of what has been done in the Rockies to 1921, can be obtained from the Assistant Secretary, 23 Savile Row, price 7s. 6d.

THE 'CLUBFÜHRER DURCH DIE BÜNDNERALPEN.'—Vol. IV., covering the Bregaglia and the Disgrazia group, by H. Rütter, with the assistance of Christian Klucker, can be obtained from Sauerländer and Co., Aarau, Switzerland.

| THE ALPINE CLUB OBITUARY : | Date of Election. |
|---|-------------------|
| Ramsay, Sir James H. | 1859 |
| Allbutt, Sir T. Clifford | 1870 |
| Pegge-Burnell, W. A. | 1889 |
| Mushet, R. S. | 1893 |
| Thomson, C. E. | 1898 |
| Woods, A. | 1904 |
| Curzon, The Rt. Hon. The Marquess (Hon. Member) | 1905 |
| Mallory, G. L. | 1910 |
| Rows, R. G. | 1911 |
| Lindsell, P. B. | 1913 |

GEORGE MALLORY.—Professor Dr. Guido Lammer, well known in the Alps in the latter 'eighties and one of the earliest guideless climbers, a brilliant writer and an equally formidable critic, writes in the *Oest. A. Z.* for January 1925 a very appreciative article on Mallory, based on his various Alpine articles. Dr. Lammer dwells particularly on the pronounced idealized side of Mallory's character, and ends :

'Dieser Mallory wurde von jenen hohen Mächten begnadet durch sein reines Streben, seinen Seelenadel, durch seinen Sieg und Tod der Menschheit eine leuchtende Blume zu schenken, die nach Jahrtausenden noch sie blütenfroh erlaben wird. Er wird zum Mythos emporwachsen wie Hektor oder Siegfried.'

Dr. Lammer has recently issued a second edition of his selected articles, entitled 'Jungborn,' which cover some of his greatest expeditions. The second part of the book deals with varied aspects of mountaineering and includes at least one of his famous polemical papers.

WE notice with much regret the death on October 18 of M. FR. SCHRADER (1843-1924), Hon. Member of the A.C. (1902). M. Schrader was one of the founders of the C.A.F. in 1874, and attained a world-wide reputation as a geographer. His mountain expeditions were confined mainly to the Pyrenees, of which he published many years ago what is still the best map of that region.

THE death is announced at Nice in March of M. JOSEPH VALLOT at the age of 72. M. Vallot was one of the founders and a Past-President of the C.A.F., and Hon. Member of the A.C. He was lately promoted *Officier de la Légion d'Honneur* for his services to science and to the C.A.F. M. Vallot and his brother, the late M. Henri Vallot, established the observatory on the Rochers des Bosses. The six volumes of their 'Annales l'Observatoire du Mont Blanc' contain articles of great scientific importance. They have for years past been engaged in a very detailed survey of the Mont Blanc group, the results of which are to be expected shortly in a great map on the scale of 1 : 20,000. The Vallot hut was also erected at the cost of the two brothers. The obsequies, attended by a great concourse, including representatives of the various Clubs and Societies of which he was a member, and at which the valedictory address was given by M. le Chevalier de Cessole, took place at Nice prior to the burial at Père Lachaise.

THE twenty-fifth anniversary of M. LE CHEVALIER DE CESSOLE'S Presidency of the Nice section of the C.A.F. was celebrated on April 4. Those of us who are honoured by his friendship know the splendid influence he has had all these years in developing the taste for mountaineering among his young members. He is held by them in warm affection, and it is an unforgettable memory to witness, at one of their club meetings, the enthusiastic interest which he has known how to build up. The Alpine Club did itself the honour to send him the following telegram on the occasion :

'Alpine Club se permet de vous féliciter à l'occasion du vingt-cinquième anniversaire de votre Présidence et d'exprimer son appréciation de tout ce que vous avez fait pour l'Alpinisme et surtout pour le training des jeunes gens.'

THE LATE MAJOR LINDSELL.—We are informed that, in the two or three last years of his climbing, his regular guide was Max Aufdenblatten of Zermatt.

WE regret to learn that Mrs. FREDERICK GARDINER died on December 9. In the 'nineties she was often the climbing companion of her husband.

AWARDS TO BRIGADIER-GENERAL BRUCE AND MR. A. F. R. WOLLASTON.—At the meeting of the Royal Geographical Society

on April 6 the President announced that the King had approved the award of the Royal medals as follows :—

The **FOUNDER'S MEDAL** to Brigadier-General the Hon. C. G. Bruce, C.B., for his lifelong geographical work in the exploration of the Himalaya, culminating in his leadership of the Mount Everest Expeditions of 1922 and 1924.

The **PATRON'S MEDAL** to Mr. A. F. R. Wollaston for his explorations and journeys in Dutch New Guinea, Central Africa, and many other parts of the world.

Mr. YELD has been elected by the Royal Horticultural Society to fill a vacancy on the list of Holders (63) of the Victoria Medal of Honour.

Mr. FRESHFIELD completed his 80th year on April 26, and was the recipient of many letters and telegrams of congratulation, including those from the C.A.F. and the A.C. He has been a member of the club for 61 years. There is no one who has shown greater interest in its affairs or has retained, undimmed, in a greater degree the true spirit of the mountaineer. As a world-wide traveller he has few peers, while his publications on mountaineering and other subjects—not forgetting his volumes of verse—assure him a permanent place in literature. May his splendid activities long continue.

PRESENTATIONS of pictures to the Club :

‘The Aletsch Glacier from the Eggishorn,’ by George Barnard.

‘The Matterhorn and Val Tournanche. Early Dawn,’ by George Barnard.

Presented by Ambrose Boyson, Esq.

‘The Brenta Dolomites from Monte Spinale,’ by Cecil A. Hunt, A.R.W.S.

Presented by the artist.

‘Monte Cristallo,’ ‘Les Ecrins,’ ‘Weisshorn,’ by Elijah Walton.

‘Monte Cristallo,’ by C. G. Blampied.

‘Monte Rosa, Macugnaga,’ by B. J. M. Donne.

Presented by Henry Wagner, Esq.

‘The Swiss-Italian Rampart. Mont Brulé,’ by Miss Hilda Hechle.

Presented by the artist.

‘Chamounix in 1860,’ by Henry Winkworth.

Presented by Professor J. Norman Collie.

'Lord Bryce,' by E. F. Carruthers Gould.

Presented by Miss Phyllis Broome.

[This is a caricature of the great traveller. It represents a very alert chamois with the well-known features of Lord Bryce. It is understood that he was much edified at the clever caricature.]

'Leslie Stephen.' Etching by G. F. Watts.

Presented by Miss Tilney and her brothers and cousin.

'Chamounix.' (Old Lithograph.)

Presented by J. Walker Hartley, Esq.

Photograph of the Old Swiss Coloured Prints at the Alpine Club Exhibition, December 1924.

Presented by R. W. Lloyd, Esq.

Four Water-Colour Drawings by Loppé (belonged originally to Leslie Stephen).

Presented by Sir Harry Stephen.

SYDNEY SPENCER.

MOUNTAIN SPORT IN THE EIGHTEENTH CENTURY.—The following passage from a MS. 'Voyage au Mont Cenis, 1787,' of M. Pison du Galland is cited by the late S. Vaccarone in his tract, 'Le Vie delle Alpi Occidentali' (Turin, 1884). It is probably the first mention of indulgence in what is now a favourite form of winter sport. Tobogganing as a means of transport dates, of course, from the prehistoric age. It was in use in the Western Caucasus in classical times and is mentioned by Strabo and Pliny.

M. Pison du Galland wrote: 'Il est constant qu'en six minutes les chariots à glace, ou ramasses, parcourent en descendant le même espace qu'on ne fait qu'en plus d'une heure en montant, et qu'on ne fait aussi en descendant de toute autre manière qu'à peu près dans le même temps. On peut par là se faire une idée de la rapidité extrême de ces voitures à glace. Elles ont chacune un conducteur qui se place devant le conduit, et ce long glissade se fait en toute sécurité, quoique quittant la route ordinaire des traverses en zigzag, elle se dirige en ligne beaucoup plus droite. Il est vrai que quelques personnes, perdant haleine, n'ont pas la force de la supporter. Mais les conducteurs peuvent de temps à autre en se rangeant de certaine manière faire des pauses et remettre ainsi le voyageur. On m'a assuré d'avoir vu des femmes, surtout Anglaises, faire cette singulière course et la recommencer, pour le seul plaisir d'essayer leurs forces et de montrer leur courage. C'est assez, je crois, de la faire pour abbréger !'

MR. TOD-MERCER writes :

'The past winter, although by no means a severe one, has been remarkable for the appearance of wolves and even an occasional

grey bear in localities in the Tuscan and Emilian Apennines, where such have been unknown for generations. A large wolf was shot in the hills not far from the industrial town of Prato (twelve miles from Florence), and a bear sauntered into the market-place of a Ferrarese village, to the discomfiture of the inhabitants. Beyond some loss among the flocks, no damage to persons is reported.

'A mixed party climbing Mt. Cimone (7200 ft.), partly on ski, in February lost their way in mist, and on returning late at night to Boscolungo (Abetone) declared that they had been followed by a wolf. This party took fourteen hours instead of the usual eight or nine hours as in summer.'

MR. FRESHFIELD has been made an Hon. Fellow of his old College, University.

THE A.C. RULES.—By an alteration in rules 6, 7, and 8 ordinary members, being British subjects ordinarily resident outside Europe, pay an entrance fee of one guinea and a subscription of two guineas instead of three and three respectively.

LE GROUPE HAUTE MONTAGNE DU C.A.F. now numbers 21 membres d'honneur, 106 active members, 3 honorary members and 52 postulants. M. Paul Helbronner is Président d'honneur for 1925. The Club is publishing shortly a translation of the 'Dauphiné Führer,' which was itself a translation (with additions to date) of Mr. Coolidge's 'The Alps of the Dauphiny.' Many expeditions were made during the summer notwithstanding the weather.

THE ABYSSINIAN MOUNTAINS.—A well-illustrated article appeared in the *Field*, January 15, 1925.

Visitors to the huts of the S.A.C. in 1923 :

| | | | |
|----------------------|------|--------------------------|------|
| Bétemps | 760 | Hohtürli | 2105 |
| Matterhorn | 413 | Gspaltenhorn | 444 |
| Schönbühl | 612 | Mutthorn | 1418 |
| Dom | 188 | Baltschieder | 219 |
| Weisshorn | 128 | Oberaletsch | 115 |
| Mountet | 459 | Finsteraarhorn | 393 |
| Bertol | 606 | Strahlegg | 411 |
| Chanrion | 356 | Gleckstein | 702 |
| Panossière | 318 | Clariden | 254 |
| Orny | 1000 | Fridolin | 278 |
| J. Dupuis | 1017 | Boval | 2138 |
| Britannia | 941 | Tschierva | 795 |
| Solvay | 487 | Forno | 376 |

Total visitors to all huts 41,186

As against, for 1922 33,150

ULRICH ALMER.—In 1919 a fund was subscribed by members for the benefit of this famous guide, who suffers from partial blindness and infirmities which prejudice his capacity for work. He is in his seventy-sixth year.

| | £ | s. | d. |
|--|-----|----|----|
| The sum raised was | 366 | 14 | 0 |
| Add interest to date | 52 | 15 | 7 |
| | 419 | 9 | 7 |
| Deduct Payments to Almer over six years and two months, at the rate of Frs. 80 monthly . | 252 | 12 | 6 |
| Leaving a balance on March 1, 1925, of . | 166 | 17 | 1 |
| It appeared better to secure definitely the pension of Frs. 80 per month by an assurance policy. Further subscriptions were raised amounting to | 72 | 8 | 0 |
| Bringing the available funds to | 239 | 5 | 1 |
| With this a policy has been taken out with the Société Suisse d'Assurances Générales sur la Vie Humaine, Zurich, at a cost of | 238 | 14 | 1 |
| Leaving a balance of | 11 | 0 | |

Which has been handed over to the A.C.

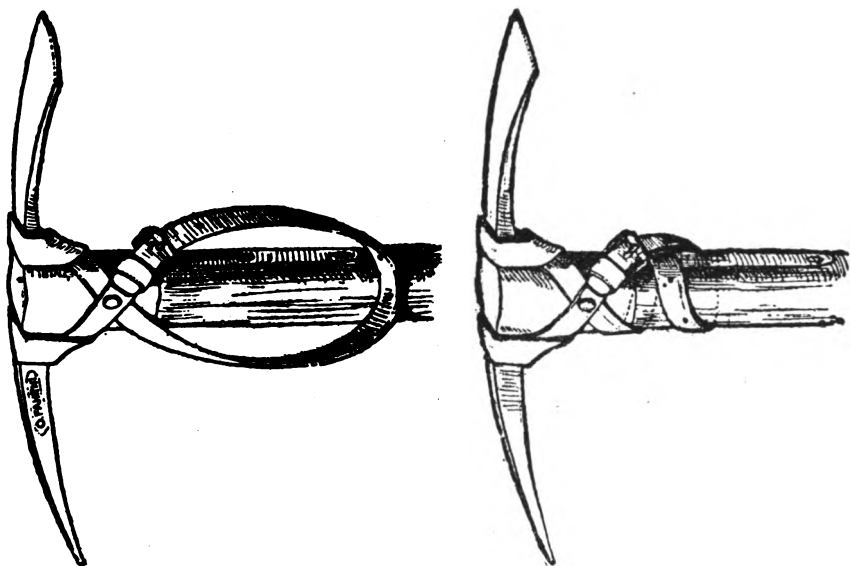
| | |
|--|-------------|
| J. P. FARRAR, President 1917-1919. SYDNEY SPENCER, Hon. Secretary | } Trustees. |
|--|-------------|

April 3, 1925.

FURTHER SUBSCRIPTIONS.

| | £ | s. | d. | | £ | s. | d. |
|--------------------|----|----|----|------------------|-----|----|----|
| Hon. G. FitzGerald | 10 | 0 | 0 | J. P. Farrar | 2 | 0 | 0 |
| Sir G. Morse | 5 | 0 | 0 | J. P. Somers | 2 | 0 | 0 |
| C. S. Ascherson | 5 | 0 | 0 | C. Wilson | 2 | 0 | 0 |
| T. P. H. Jose | 5 | 0 | 0 | A. L. Mumm | 2 | 0 | 0 |
| C. H. R. Wollaston | 5 | 0 | 0 | S. Spencer | 2 | 0 | 0 |
| G. P. Baker | 5 | 0 | 0 | R. A. Wright | 2 | 0 | 0 |
| R. W. Lloyd | 5 | 0 | 0 | James Jackson | 2 | 0 | 0 |
| R. Corry | 3 | 3 | 0 | Claude Macdonald | 2 | 0 | 0 |
| H. Runge | 3 | 3 | 0 | G. W. Hartley | 2 | 0 | 0 |
| G. W. H. Ellis | 3 | 0 | 0 | A. M. Bartleet | 1 | 0 | 0 |
| J. J. Withers | 2 | 2 | 0 | | | | |
| J. S. Anderson | 2 | 0 | 0 | | | | |
| | | | | | £72 | 8 | 0 |

THE AXE-SLING here shown was designed by Mr. O. Fahrni, S.A.C., and is highly spoken of by Mr. Paul Montandon, whose activities



and experience are unsurpassed. Instead of the rivet a bit of string can be used.

WINTER ASCENTS OF THE BIETSCHHORN are as follows—1916: H. Morgenthaler, A.A.C.Z., and G. Chiardola, A.A.C.Z. 1918¹ (Jan. 26): H. Lauper, A.A.C.B., and Fr. Egger,² A.A.C.B. 1921: R. v. Tschärner, A.A.C.Z., and V. Bonstetten, A.A.C.Z. 1924 (Nov. 30): P. v. Schuhmacher, A.A.C.B., and W. H. Amstutz, A.A.C.B.

AIGUILLE CENTRALE DE BLAITIÈRE.—Referring to diagram between pages 90 and 91 of the new 'Les Aiguilles de Chamonix,' reviewed in the present number, the ascent of the snow-wall, route 67, p. 93, was made, probably for the first time, on August 7, 1898, in 2 hrs. 20 mins. from the breakfast place by Mr. Sydney Spencer with Christian Jossi (father) and Hans Almer. 'Descent by rocks on right (proper) bank of snow-wall, which took 4 hours to the glacier below, which will give an idea that it was none too easy. It was very steep, and there were at places snow-patches to cross with the snow in a very dangerous state. Jossi led up and came down last.'

¹ Very severe conditions (*A.J.* xxxii. 275).

² Killed two years later on the same mountain.

Mlle. Rochat, a few days later, started up the snow-wall, but had to take to the rocks on the right (proper) bank, owing to the dangerous state of the snow. See *Jahrbuch*, xxxiv.

GRANDS CHARMOZ.—In August 1924 MM. Jacques de Lépiney and Paul Chevalier made the ascent from the Glacier de Trélaporte by a route close to Thorold's, but nearly all the time more to the left, whereas Mallory and Porter's lay more to the right. They did not experience great difficulties.

HIMALAYAN NOTES.

THE TIBETAN NAME OF MOUNT EVEREST.

A MATTER of considerable historical importance, which appears to be hardly known, at any rate in this country, is the fact that the real Tibetan name of Mount Everest, definitely ascertained during the first expedition to the mountain in 1921 to be 'Chomolungma,' though obtained for the first time several years previously by General Bruce and Dr. Kellas independently,¹ was actually known to Europeans as early as 1733. Sir Charles Bell relates in his book, 'Tibet: Past and Present,' that some French Capuchin Friars, who resided at Lhasa from 1708 to 1733, during a period of great unrest, when the Chinese by guile entered the city and took possession, eventually had to quit the city, because they were not supplied with funds from home, rather than from the Tibetan opposition. These friars, as they made their way across Western Tibet, constructed a rough map of the country, and marked on it the mountain 'Tchomolungma,' in precisely the correct position for Mount Everest on the Nepalese frontier.

Col. Burrard relates in his joint work with Hayden, 'The Geography and Geology of the Himalaya Mountains and Tibet,' 1907, pt. i. p. 21, 'After fifty years of controversy no true native name has been produced for Mount Everest: each of those suggested has in time been shown to be inapplicable, and the evidence that no such name exists is overwhelming.' In view of this statement, the writer was particularly interested, during a recent visit to Stockholm, to have pointed out to him by Dr. Sven Hedin the name and position of Chomolungma on the French friars' map of 1733. It is perhaps surprising that this fact, which should be of considerable interest to all mountaineers and orographers, has lain buried amongst French archives for nearly 200 years.

N. E. ODELL.

¹ 'Mount Everest v. Chomolungma,' D. W. Freshfield, *A.J.* xxxiv, No. 224.

NEW ZEALAND NOTES.

THE NEW ZEALAND ALPS, THE SECOND ASCENT OF MT. SEFTON.

CAPTAIN HAROLD PORTER writes :

'On Wednesday, February 4, Milne and I alone—a most joyous combination—attacked Mt. Sefton and conquered it in six hours from the Sefton bivouac, getting down again in four and a quarter, and back to the Hermitage by 5 P.M. It is most emphatically a mountain for experts only, but, provided that a route has been prepared through the very broken and tangled Huddleston Glacier the previous day and that the party can handle steep rotten rocks with speed and safety, a perfectly sound proposition. Near the top there is a section of 150 ft. divided into three pitches of splendid firm rock, two pitches having an 80° inclination, but so wonderfully constructed that you can walk up them like a staircase—the difficulty being comparable with that of the New West on the Pillar. On the way down we picked out the two great pitons which Zurbriggen hammered in and brought them down as trophies, one for Milne and one for me ! What Z. wanted them for I can't understand ; either he was terribly shaken by Fitzgerald's fall or there must have been a high wind, as the places he used them at would not have deterred any competent Lakeland climber. Our day was very poor, but there was hardly any wind : we were in a cloud all the way up the ridge and got enveloped in a flurry of snow on the way down. The only nasty bit of the day, however, was a horribly soft snow arête with very steep sides which had softened since the morning and was quite unpleasant in the descent ; this was well below Tuckett's Col.'

CANADIAN AND AMERICAN NOTES.

Mt. Logan Expedition.—The whole of the estimated cost, \$11,500, has not yet been subscribed, and further subscriptions can be sent to Mr. A. L. Mumm, 23 Savile Row, London, W.1.

The R.G.S. has subscribed \$500, following the subscription of £100 by the A.C.

MR. DE VILLIER-SCHWAB writes :

'It might be of interest to the Alpine Club that there has recently been formed a *Harvard Mountaineering Club*. This is primarily an undergraduate association, having for its purpose the promoting of interest in mountaineering at the College, and the bringing of these

men into touch with Harvard graduates, who are experienced climbers. It is much to be hoped that this new Club will accomplish the purposes that we have in mind, and eventually that similar Clubs will be founded in other Universities, such as Yale and Princeton.'

THE INTERPROVINCIAL SURVEY.—Mr. Wheeler informs us that the survey field work in the vicinity of Mts. Alexander Mackenzie and Ida (*cf.* 'A.J.' xxxv. 421) was completed last summer, and that the maps, which, however, will not actually include the mountains mentioned, may be expected later.

Mr. A. O. Wheeler has been retired from the survey work of the Department after thirty-six years' service. He hopes to continue his work in interesting people in the mountains and 'spreading the gospel.' He is turning his attention to organizing parties to various points of interest in the mountains. One of his parties last summer travelled from Lake Louise to Mt. Robson *via* the Columbia Icefield, and back by a different route. There is no man now living who knows the Canadian Alps better than he does, while his experience of camping expeditions may be relied upon to ensure the comfort of any party who may decide to make use of his services.

We are glad to learn that he is continuing in office, for the present, as Director of the Canadian A.C.

His address is Sidney, Vancouver Island, or during high season Banff, Alberta.

MR. LAUPER, the well-known member of the A.A.C., Berne, writes from San Francisco:

'On January 2 I made the second winter ascent of Mt. Shasta (14,161 ft). The first winter ascent was made only last February. The climb was not difficult, but rather strenuous on account of a strong wind; very cold. One could hardly breathe on the final ridge.

'On January 3 I climbed the Western Peak, the Shastina (12,900 ft.), by myself, which is believed to be the first winter ascent. I made use of my skis to a height of about 11,700 ft. There, in the saddle between Mts. Shasta and Shastina, I was caught by a terrible snow-storm. I had to leave the skis in this saddle and climbed in another hour to the top of Shastina. In going down I had some difficulty to find my way through the fog and snow, but I managed to get to my skis, and then, ski-ing, I got down to the timber line in no time. I think this escape was due to my way of climbing (with the head !!). This is to be taken literally, for two or three times my skis went wild and I came down head first. But, after all, it was a fine climb.

'Mt. Shasta forms the northern end of the Sierra Nevada. It is an extinct volcano and rises from Sisson, the point from which to start for this climb, somewhat more than 10,600 ft., and, with the exception of Shastina, has no neighbour of any considerable height.

There are still evidences of its volcanic origin. Steam still emerges from some crevices, and boiling sulphureous water bubbles out about 100 ft. below the very top.'

ACONCAGUA, 7010 m. = 22,993 ft.—It will be remembered that Dr. Paul Güssfeldt, one of the best mountaineers of his time, was the first to attempt this mountain. His two resolute attacks (1883), pushed to 6600 m., fell short of success by 400 m. Mr. Fitzgerald's well-appointed expedition of 1896-7 resulted in the ascent of the mountain on January 14, 1897, by Mattäus Zurbriggen (by himself), repeated on February 13 by Mr. Stuart Vines with Lanti of Macugnaga. On December 7, 1898, Sir Martin Conway, with Antoine Maquignaz, reached the summit arête ('there was absolutely no difficulty between this point and the highest peak'). The next ascent was made on January 31, 1906, by Dr. Robert Helbling (by himself), the well-known Swiss mountaineer. Dr. Helbling is the author of a very valuable monograph of the Aconcagua-Tupungato group with elaborate maps (Zurich 1919), which chronicles minutely the various attempts on, and ascents of, these mountains.

Another ascent has now been made by Messrs. Mervyn F. Ryan, J. Cochrane, F. Clayton, and C. V. R. Macdonald, engineers of the Transandine Railway. Mr. Ryan had got within 2000 ft. of the top already in 1923.

The party left Puente del Inca, a station on the railway, in January, and first made the ascent of Almacen, between 17,000 and 18,000 ft., and of Tolosa, about 18,000 ft., by the N.W. ridge.

They then started for Aconcagua, following the established route. Transport difficulties were much reduced, as the very capable Chilean arriero, Carlos Lobos, managed to get two mules up to a high camp on the saddle, about 19,000 ft. They left their camp at 5 A.M. on February 14, temp. — 10° C., and reached the top apparently without any great difficulty, except for cold, at 6.30 P.M. 'The area on top was about the size of a tennis-court, absolutely free of snow.' Mr. Vines's record was found in the shape of a box placed amongst the stones and containing a visiting card with the words, 'M.W.S.M. Vines, Pinkerton Rectory, Lincoln,' in addition to a piece of paper on which was written: 'I am carrying a heliograph which I cannot use because of the clouds. I have left my ice-axe and maximum and minimum thermometer. Temperature 45 degrees below zero' [F.]. As the two thermometers were broken they were brought down.

Mr. Ryan has had considerable experience in the Alps. It is very satisfactory to find this development of mountaineering enterprise. (From *Buenos Aires Standard*, Feb. 18 & 19, 1925, presented by Mr. A. E. Cutforth, and *Review of the River Plate*, Feb. 20, 1925, presented by Mr. R. W. Lloyd.)

REVIEWS.

An Alpine Valley and Other Poems. By Lawrence Pilkington. With Woodcuts by Margaret Pilkington. London: Longmans, Green & Co. 3s. 6d. 1924.

REMEMBERING Mr. Pilkington's great achievements as a guideless climber, we anticipated that much of this volume would be devoted to the Alps. Nor have we been disappointed. He loves well all mountains and hills, and knows them well: moreover, he is in sympathy with those who live amongst them. He appreciates every phase of their changeful beauty and splendour.

See there ! at last the topmost peaks turn gold ;
Lo ! how the glory spreads from peak to peak,
Shaded with turquoise gold and amethyst,
Lighting the purple gloom that lies below
Till colours break from every particle
Of the damp air above the waterfall.

Again

At eventide I watched the daylight wane
Upon the great snow peaks, and when it failed
Their crimson mantles turned to ghastly green,
Cold, cold as death.

and

The sunset fires die down ; a faint wind stirs ;
A star peeps forth to greet the coming night ;
The dew begins to fall ; the peaceful hills
Lie calm and clear against the fading light.

Mr. Pilkington's verse is always thoughtful, the work, in fact, of a serene mind. Wordsworth is probably his favourite poet. We give one Alpine poem in full.

CLIMBERS.

With steady purpose, on the climbers fare,
Slow stepping by uncertain lantern light,
Up the frail path, through wastes of boulders bare,
Girt by the dusky mantle of the night.

From out the midnight darkness down below
Huge mountain forms rise steeply up, and cast
Their mighty shadows over rock and snow,
Down from each serried ridge, mysterious, vast.

Warm gusts of air stray from the alp beneath,
And lightning flickers on the distant heights,
While wandering clouds spread out a misty sheath
To quench the paling stars' uncertain lights.

The glacier torrent flings its sullen boom
Up from the chasm in the valley deep,
Up through the darkness and the midnight gloom
Resounding from each scarp and rocky steep.

The climbers now have disappeared from sight
 As phantoms vanish in an idle dream,
 And as some will-o'-wisp fades in the night
 The lantern on the slope has ceased to gleam.

The poems in the latter half of the book, in which Mr. Pilkington is the philosopher rather than the mountain-lover, do not appeal to us so much as those in which he is face to face with the storm, or the sunset, or autumn in 'full array.' We offer our congratulations to Miss Margaret Pilkington on her excellent woodcuts.

Les Portraits du Mont Blanc. Aquarelles Pastels Dessins au Roseau et Brou de Noix et Texte. Par André-Charles Coppier. Chambéry, Librairie Dardel.

THE author and illustrator of this attractive volume is an artist and, we gather, a native of Savoy. His first object is patriotic, to lay another wreath on the altar of Mont Blanc—Jupiter Penninus. But he puts forward other and larger aims: aims in which he has our full sympathy. M. Coppier is earnest in maintaining that the upper zone of the Alps need not be outside the scope of the painter who is content to reproduce its features and aspects with faithfulness and understanding. He seeks also to insist on the tendency in what has been termed the Acrobatic School of climbers to lose, through an inordinate engrossment in their own feats, the power of appreciation of the beauties of the world above the snow-level which is the highest reward of the true mountaineer.

Neither thesis should be any novelty to members of the Alpine Club. Exactly fifty years ago Mr. Freshfield in the last chapter of his 'Italian Alps,' and also in our pages, ventured to argue with Ruskin on the place of the Alps in art, and to urge artists 'to avoid hasty conclusions founded on imperfect knowledge, and attempt the mountains with the same energy and perseverance that have made them subject to our athletic youth.' Nor have the excesses of athleticism escaped comment, and even ridicule, in these pages.

M. Coppier has some reason for his denunciation of the blindness of a certain class of climbers to the glories of the High Alps. But we cannot but believe that a closer acquaintance with our literature—the self-mocking humour and habitual reserve of the British mind—might have made his criticism better directed. Leslie Stephen, Dent, and Mummery were all keen climbers; but they were also deeply sensitive to the aesthetic and moral appeal of the heights.

The first impulse of most of us on opening M. Coppier's volume will be to dwell not on the text but on the lavish illustrations with which its pages are adorned. These divide themselves into two classes: delicate colour-prints and plates produced by a process which gives a walnut-toned effect to the mountain forms. In both we recognize a singular accuracy in the drawing of the peaks, and an exactitude in the reproduction of the details of rock and snow-structure that suggest the help of photography. The colour-plates

are likely to prove the most generally attractive, and, given the limitations of a mechanical process, they could hardly be surpassed. In many of them the green vaults of the glaciers and even the iridescence of the upper snow-slopes at noon are successfully reproduced; the golden or roseate hues of dawn or evening and the deep star-bespangled vault of night are vividly brought before us. Since Coleman's 'Scenes from the Snowfields' how great has been the advance! But eager climbers may prefer the bold monotone drawings which do full justice to the structure and formidable aspect of the Chamonix Aiguilles and of the repellent snow-buttresses that support them.

As an artist M. Coppier shows himself a realist and a topographer; he takes few or no liberties with the facts of Nature. But when he exchanges his brush for his pen he is apt to allow himself a considerable freedom. His description of the séracs of the Col du Géant, or that of the final section of the now frequented route up Mont Blanc, reflect a more than ordinarily impressionable temperament. Few modern climbers find the traverse of the lower Bosse *angoissante* or would care to call the crest above it a *mauvaise arête*, or a *lieu de cauchemar*. We note these phrases with sympathy and without malice. For it is interesting to find that the emotions of the pioneers who turned back before the imaginary perils of the last climb can still—despite its having become a trampled track—be reproduced and thus eloquently expressed.

In questions of historical fact we feel less able to make allowance for M. Coppier. In the case of the Balmat-Paccard controversy, he is content to ignore M. Ferrand's and Dr. Dübi's exhaustive argument and to rely on Bourrit's misstatements and the now obsolete legend to which that Prince of Storytellers, Alexandre Dumas, Père, gave for years a European circulation. Again, with regard to the *third* (if we do not count de Saussure's valet!) amateur climber of Mont Blanc, Colonel Beaufoy, M. Coppier is incorrectly informed. Our countryman is contemptuously dismissed as a soldier 'dégagé de pré-occupations scientifiques.' The Colonel was, in the first number of *Blackwood's Magazine*, termed, in the language of the day, 'a Philosopher of considerable eminence.' He was a F.R.S. and a man of various scientific interests and attainments. He read before the Royal Society a Paper on his ascent of Mont Blanc which was first printed in 1817 and reprinted with a biographical note in vol. xxix. of this JOURNAL.

Next, we may point out that Shelley and Byron did not visit the Monteners together. Byron followed Shelley and took the trouble to erase the word *Atheist* which Shelley had put after his name in the 'Livre des Voyageurs.' (The authority for this statement is Byron himself. It is reported in Medwin's 'Conversations of Lord Byron,' vol. i. p. 212-216, quoted in Murray's 1901 edition of Byron's Works, Letters and Journals, vol. vi. p. 394.) We will not hunt for corrigenda. But we must protest that the plains

of Lombardy cannot be seen from Mont Blanc 'over the Grand Paradis'; in fact, they cannot be seen at all: nor can Mont Blanc be seen from Milan. These are exceptional slips: as a rule the topographical details given are accurate and the descriptions of scenery eloquent and vivid. Some readers may, we hope, profit by M. Coppier's insistence on the merits as viewpoints of the seldom visited Pointe Percée behind Sallanches and the Tour Ronde on the Brenva-Tacul ridge. The former offers one of the most picturesque views of the Savoy side of the range; the latter reveals in its most imposing aspect Mont Blanc itself.

There remain two matters of some importance, M. Coppier's treatment of which calls for mention here. He believes that he has 'discovered' that Leonardo da Vinci on his way to France visited St. Gervais les Bains, and, having thus approached Mont Blanc, made an excursion to its snows, which he described under the name of Monbosco. This so-called discovery is the result of the mistranslation and misinterpretation of two passages, that have been frequently quoted, from a notebook of Leonardo, known as the *Codex Atlanticus* and now in the Ambrogian Library at Milan. In Dr. Richter's two-volume edition of Leonardo's Literary Works the first passage reads as follows: 'Riviera d'Arve presso a Ginevra 1/4 di miglio in Savoia dove si fa la fiera nel villaggio di San Gervagio in San Giovanni.' That is: 'The river Arve near Genève a quarter of a mile in Savoy, where the fair is held at (the feast of) St. John in the village of St. Gervais.'

M. Coppier, however, translates 'Rivière d'Arve *courant* à Genève deux (sic) quartiers de mille du village de St. Gervais où elle fait la *sauvage* à la St. Jean'!

Dr. Richter adds that there is an indistinct sketch on the same sheet of paper as the Note. M. Coppier recognizes in it a drawing of the eddies of a torrent.

The words in italics are misleading and are not in the original note; but the note itself obviously contains a puzzle. The description 'near Geneva' cannot ever have applied to St. Gervais, known since 1806 as les Bains, a village over thirty-five miles off. But there is a suburb of Geneva on the right bank of the Rhône called St. Gervais and once famous for its midsummer Fairs; and the Arve leaves Savoyard territory close to Geneva. If we could assume the words 'presso a Ginevra' were hastily misplaced and should have come after 'Savoia,' the difficulty might be solved. Or should there be a full-stop at 'Savoia,' and the subsequent words be taken as referring to some separate sketch? The latter is perhaps the simpler and more probable explanation. Leonardo's notes are apt to be disjointed, and a further examination, or a photograph, of the sheet in question would be helpful.

M. Coppier finds no difficulty in recognising St. Gervais les Bains as the village indicated. He accordingly boldly selects as the scene of the sketch a bend of the Arve between Sallanches

and Servoz. In doing this he has obviously at the back of his mind a motive that disposes him to this identification. For, having overlooked Signor Uzielli's convincing proof that Leonardo's Monboso was part of the chain of Monte Rosa, he is seeking for confirmation of his alleged discovery that the mountain Leonardo went up to was Mont Blanc. It is an hypothesis that will not stand expert criticism.

Our last ground of difference with M. Coppier is more serious. Dabbling with the orthography of local place-names which have been accepted in official maps is an amusement not to be lightly indulged in. To cartographers and indexers it is apt to become a source of infinite trouble. It may be hard to lay down any absolute rule for literary use. But the principle adopted by the Geographical Society seems the most obviously convenient: to accept the decision of the national government as shown in official maps and post-marks. This need in no way impede endeavours to induce the competent authorities to correct obvious blunders in future issues of their Survey Maps; while inquiries into the early forms of local place-names may, of course, often prove interesting and lead to historically valuable results. For example, it is instructive to learn from old documents that the original form of Pontresina was Pont Räschuns (Pons Rhaetiae). A Saracenic legend is thus disposed of.

In this matter M. Coppier is reckless. He proposes—and that in the most off-hand way—a revised nomenclature for the peaks and glaciers. We ask in vain for his authorities. Who, besides Dr. Paccard, used the phrase Vallée de Bayer for the Mer de Glace? What is the ground for changing the Aiguille Verte into the Verde? Where did he discover that the old forms of the Leschaux, the Charmoz, the Périades, the Tacul and the Talèfre are L'Echeau, L'Echarneau, Les Périactes, l'Acut, le Tallevas? He alleges, it is true, that they may be found in a Cadastre Royal of 1730.

Our honorary member M. H. Ferrand has enabled us to furnish the full particulars as to this remarkable and forgotten document which we had looked for in vain in M. Coppier's pages. It was made by an order of Victor Amedée II as a basis for taxation, and included therefore only such lands and buildings as were cultivatable or capable of human occupation. Glaciers and peaks, not coming under this category, were naturally excluded, and it is on this account that it has been generally ignored in Alpine literature. We have now before us a complete list of the place-names in the parish of 'Chamony' found in the Cadastre. Of names familiar to mountaineers we note Greppon, Blachiere and Montanva, each applied to a farm, or alp. But none of the forms cited above occur, and M. Coppier's further allegation that the names he seeks to 're-establish' are those employed by De Saussure is contradicted by the Index to the 'Voyages.' M. Coppier owes to his readers an explanation of these apparent contradictions.

Surely the origin of the name of the Verte is fairly obvious. Till the close of the eighteenth century the peak was known as the

Aiguille d'Argentière. When that name was transferred to another summit the great peak opposite the Montenvers ('the pasture behind') was left nameless. The guides naturally called it the Aiguille du Montenvers, and the visitors shortened it to the Aiguille Verte. No guide, or tourist, not colour-blind could have called it 'The Green Needle'!

M. Coppier supplies derivations for some of his suggested names. These strike us as fanciful and somewhat hazardous. We should like to have the opinion of high authorities such as M. Henri Ferrand before pronouncing on them. We give a single specimen:

'Elle (la Dent du Géant) semble protéger la longue courtine crénelée, hérissée de gens d'armes de granit qu'on nommait les Périactes dans cette langue imagée dont le sens s'est perdu. Quand on sait qu'un Périacte était un baliste mobile de rempart lançant des pierres sur les assiégeants on ne peut qu'admirer la justice d'appellation de cette arête dentelée, qui lapide continuellement ses bases. Les cartes récentes écrivent *Périades*, ce que ne veut plus rien dire, et ce serait sans gravité si elles ne faisaient taire le témoignage inattendu de ces Périactes en faveur d'un très ancien passage par le Col du Géant. Car cet engin de guerre des héros Grecs, employé plus tard par les Romains, n'était, certes, pas connu des chasseurs de chamois qui s'égarèrent dans les Aiguilles. Ce ne peut être qu'un érudit qui les désigne de la sorte.'

Are we seriously asked to believe that the inmost recesses of the chain of Mont Blanc were explored by the Romans? Or is M. Coppier amusing himself at his reader's expense?

M. Coppier's literary excursions and adventures may, as we have tried to show, be open to question. But he is to be congratulated on having produced a volume which will pleasantly recall to mountaineers many of their most vivid memories, and will materially help to give the general public some idea of the beauties of the snow-world of Mont Blanc and of the strangeness of the grim granite needles that cluster round it.

We trust his original drawings, now being shown in Paris, may be exhibited also in this country.

Guide Vallot. Les Aiguilles de Chamonix. J. de Lépiney, E. de Gigord and Dr. A. Migot. (Fischbacher, Paris.) 20 fr.

THIS is an admirable Guide. In the first place it is both appropriate and satisfying that the authoritative Guide to the great French Aiguilles should be produced by French mountaineers: who are in a position to frequent and explore them with much the same facility as has enabled us to produce our exhaustive Guides to British cliffs. In the second place it is entirely reassuring that it should be in the hands of writers and mountaineers who both individually and as representative of the famous 'G.H.M.' of the C.A.F. have been eliciting our admiration for their prowess progressively, season after season, since the war. And in the third place—the Guide itself is excellent: no better exists.

Criticism need only concern itself with the form of the book. It is on the surface and can be cleared out of the way at once. For a pocket companion—which this must be—the form is too large, with broad margins, and the paper too heavy. For portability, too, we could sacrifice the pages of introductory essays. But their content is sympathetic; and we recognize that they are written, primarily, to correct a public attitude of mind with regard to higher mountaineering—which once was ours also.

In essentials the book is all but faultless. The illustrative designs—that perpetual problem—are based upon well-chosen photographs. They are the best we have seen: the detail clear, the route-marking immediately intelligible, the lettering legible. The text is lucid, compact, and thorough. The method of arrangement and of composition might be termed fool-proof. Where the detail is defective, as in the case of the notable ascents of one of our own colleagues, the responsibility cannot be charged upon the authors. With energy and discretion they have collated, sifted, and tested on the spot a vast mass of material in several languages and scattered through many periodicals, and often set down with more enthusiasm than knowledge. The result is clear and convincing. No deviation, voluntary or involuntary, from the earliest times up to the present, but has been tracked out *in situ*, cleared up, and, when it deserved, given the unexpected dignity of a 'Variation.' Topographical and historical accuracy have been the first considerations. But the stories of the past have been handled with scholarly respect, almost tenderness. This, while it is in the best tradition of classical mountaineering, is all too seldom found among us; more especially in combination with a knowledge that can criticize and appreciate and with a youthful enterprise adequate to test in practice but unbiassed by any competitive feeling. As instances of the combination of accuracy and courtesy which distinguishes the method, one might refer to the discussion of the problem as to who made the first ascent of the highest point of the Charmoz—a masterly inquisition—and to the restoration, or rather, to the bestowing of the name of the 'Plaques Morse' upon the popular alternative route to the 'Mummery Crack' up the Grépon. To these slabs, first ascended by Sir George Morse with Ulrich and Hans Almer, custom had of late years attached, unhistorically, the name of a famous Chamonix guide. It is to be hoped that the note in the Addenda is over-pessimistic, and that the courteous alteration of the name will not prove to be as fatal to this good route as it is supposed to have been in the case of certain ships.

The present Guide covers the group of Aiguilles from the Petit Charmoz to the Midi. Companion volumes are to follow. It is a model of its kind. To those climbing the Aiguilles it must be indispensable. To those who have climbed them its interest may hardly be less.

G. W. Y.

The New Club Journal of the S.A.C.

THE famous old *Jahrbuch* ends with its 58th annual volume. And, with it, after 32 years' service, Dr. Dübi, ablest of editors, and in his time among the boldest and most enterprising of mountaineers, retires from active service.

He can well look back with justifiable pride to his control, to the thirty-two stately volumes which year by year have set a standard of what such books should be, and have brought delight and instruction to his readers in many lands.

The new form, with the title *Die Alpen—les Alpes*, is a monthly tri-lingual number of about forty pages, with the reports of sections and such-like separately paged. The first number contains an article by Mr. A. Zürcher on the first traverse of the several Sciora summits whereby he and his guide Risch were within an ace of being killed by a slip in a couloir, and on the first ascent of the N. arête of the Badile, particulars of which from another source appear elsewhere in this number. M. E. R. Blanchet, an enthusiastic seeker for difficult new ascents, whether rock or ice, writes very instructively on his ascent of the S. arête of the Lötschthaler Breithorn. The late Rudolf v. Tscharnier relates his traverse of Mont Blanc on ski. The W. arête of the Windgälle is described by Herr Krupski, while M. Charles Jeanneret describes very vividly a traverse of the Drus with M. Paul Montandon, that most indefatigable and resolute of veterans, and Joseph Knubel—the always famous.

An admirable article by Dr. O. Hug, one of these monographs, instructive and profoundly interesting at the same time, that Swiss mountaineers do so well, treats of the Walliser Fiescherhörner, the little visited—by our people—group between the Aletsch and the Fiescher glaciers. Dr. Hug gives a complete list of all the routes made to date, together with a sketch-map showing the broad lines.

Herr Carl Frey writes a delightful article on the Meije and its history.

M. Jean Chaubert narrates a traverse of the Südlentzpitze-Dom-Täschhorn—a fine expedition. One is surprised that the actual height ascended between the Mischabel hut and the summit of Täschhorn was only 1567 m., or not quite as much as that between the Dom hut and the summit of Dom.

These articles are contained in the first three numbers. The fourth contains nothing of purely mountaineering interest.

The articles are superbly illustrated—I have seen nothing better. The whole turn-out is beyond reproach.

The new editors are Dr. E. Jenny and Professor A. Roussy. They are brave men to have undertaken a *monthly* task of this magnitude. If they can make their numbers equal in interest to the first three, they will earn the gratitude of their readers and the profound admiration of their undersigned colleague.

J. P. FARRAR.
Section Uto.

Oxford and Cambridge Mountaineering, 1924. Pp. 96, illustrated. Holywell Press. Price 2s. 6d.

WE welcome the reappearance of this little pamphlet, and sincerely trust that circumstances will now permit of at least an annual issue. It makes light and pleasant reading of a varied character. The Alps, Antarctic Exploration, The Tátrá, Mountain Rambles in Rumania (the best-written and most interesting chapter), and British climbs all figure in its pages, besides esoteric University gossip. There are also two sympathetic obituary notices of the Everest Immortals. Considering that the pamphlet is published at a 'seat of learning,' the number of printer's errors is appalling. On pp. 89-90 there are no less than thirteen misprints of place-names. Accents in the case of French names and modifications in the case of German are either non-existent or are placed on the wrong vowel. There is, of course, no criticism possible of Carpathian or Tátrá spellings, since the inhabitants of these countries are themselves ignorant of their own 'official' spelling or language. The blessings of Self-Determination! The illustrations are moderate.

We have ventured to make these criticisms with the assured hope that the Editor will take them in the spirit in which they are intended, and that the pamphlet, in its next issue, will more than fulfil the distinct promise which this number holds out.

E. L. S.

THE ALPINE CLUB LIBRARY.

The following additions have been made to the Library:—

Club Publications.

Akad. Alpenclub, Bern. 19. Jahresbericht. 9 × 6: pp. 20. 1923-24.
Neue Touren, 1924: *D. Chervet*, Vord. Jäghorn S.O. Grat; *Lauterbrun*
Breithorn N. Wand: *H. Salvisberg*, Blümlisalphorn N. Wand: *W. Richardet*,
Eiger on ski: *P. v. Schumacher*, Jungfrau first descent on ski.

Akad. Alpenverein Innsbruck. 8½ × 5½: pp. 36. 1923-24.

New ascents: 1923, *R. Jenny*, Rogalsp. N. Wand: *A. Fröhlich*, Kl.
Schlenkersp.; 1924, Hint. Gufelkopf S. Wand; Bergwerksp. N. Wand;
Kreuzjochsp. N. Wand; Gr. Leitersp. O. Wand; Gebädesp. S.O. Grat;
Mutte N.W. Wand: *A. Kössler*, Hochhofenwand O. Wand.

Alpine Club. Exhibition of Swiss coloured prints. 8½ × 5½: pp. 32: 4 col. plates.
December 1-30, 1924

Alpine Club of Canada. The Gazette. 7 × 5: pp. 42. January, 1925

1924: First ascent of Mt. Geikie by *C. G. Wates*; of Mt. Hawker by
Thorington, *Ostheimer*, *Strumia*; *J. H. MacCarthy's* Mt. Logan trip.

Appalachian Mountain Club. Supplement to Bulletin. 7 × 4½: pp. 151.

Register for 1925.

— **Appalachia**, Vol. 16, No. 1. 9 × 6: pp. 100: plates. December, 1924

This contains: *A. Burr*, Jungfrau fr. North, 1923: *A. P. Coleman*,
Skickscock Mountains: *Dean Peabody*, Canadian Rockies, 1923.

British Ski Year Book. Vol. 2, No. 5. 8½ × 5½: pp. 223-472: plates.

1924. 5s.

Among the contents are the following: *A. Conan Doyle*, Ski tour in
1893, Davos to Arosa: *W. H. Amstutz*, First Jungfrau traverse on ski: *C. J.*

- White*, Ulrichenjoch and other passes : *A. Lunn*, Eiger on ski : *C. Wybergh*, Adventure on the Buet : *B. J. Marden*, Pontresina ski-tours 1923-24 ; Everest tragedy : *G. Seligman*, Ski-ing in Pyrenees.
- C.A.F.** La Montagne. Vol. 20. 9 x 6: pp. xx, 368: plates. 1924
 Articles: Cinquantenaire du C.A.F.: Le Prince Bonaparte : *L. Maury*, Picos de Europa, with map : *P. Helbronner*, Description géométrique des Alpes françaises : *G. Cadier*, Lacs pyrénéens : *M. Damesme*, Aigs Rouges du Dolent : *H. Bregeault*, Première ascension dans les Aigs du Diable : *H. Ferrand*, Temple de la nature.
 New ascents : *H. J. and E. Bordeaux*, Aig de la Nova : *F. Fino*, Aigs de Vesine : *H. Mettrier*, Albaron S. face ; Pte. d'Arandelières W. face ; Croce Rossa W. arête ; Ouille Noire S. arête ; *H. Dain*, Balaïtous N. face : *M. Brunet*, Pte. Percée Winter : *J. de Lépiney*, Aig du Plan N. face.
- C.A.I.** Rivista, Vol. 43. 1924
 Articles : *E. C. Biressi*, Zinal Rothorn : *L. Alberti*, Terminologia alpina in lingua tedesca : *M. C. Santi*, Les Bans : *F. Ravelli*, Traverse Aig de Grépon, 1920 : *C. Chersich*, Tricorno : *F. Sacco*, Monviso : *G. Tonelli*, Tambo all' Adula : *E. Fasana*, Il Dru : *M. C. Santi*, Mte. Pelvoux : *C. Tomaselli*, Carducoi in montagna : *F. Terschak*, Parete S., Tofana di Rocas : *U. Valbusa*, Ghiacciaio della Brenva : *M. Bordone*, Corno Stella.
 New Ascents: 1923, *U. Balestreri* Mte. Bandita E. arête, Pta. d. Lago N. face : *M. Baratono*, Mt. Noir de Pétéret : *R. Rossi*, Rocca Parvo N.E. face ; Becca di Luseney S.S.E. arête ; Mte Oranaye : *P. Marimonte*, P. dei Gemelli, S. arête ; Pta. Sertori, S. arête : *G. Codri*, Pte. N. Dente d. Collerin N.E. face : *G. Cesareni*, N. face Presolana centrale : *A. Frisoni*, 1921 Pta. Ghigo, 1922 Lyskamm orient : *A. Ballabio*, 1921 Mte. Zebbru : *G. Scotti*, 1921 Mte. Legone N.E. face : *P. Ravelli*, 1911 Pta. Mattirolo S.W. face : *F. Ravelli*, 1921 guideless Aigs du Dru : *F. Pala*, 1924 Mte. Maidassa E. arête : *A. Fumagalli*, 1922 Pala di Popera S. face : *B. Fracasso*, 1923 Cima Moschesin : *A. Ballabio*, 1913 Cima di Rosso S.E. face : *G. Quaglia*, 1911 Pierre Menue ; 1913 Mte. Sera S. arête : *E. Fasana*, 1923 Mt. du Clapier W. face : *A. Enrico*, Gr. Capucin : *F. Pala*, 1924 Pta. d. Trebersette S. arête : *P. Zanetti*, Becca di Vloui 1924 S. arête : *E. Barisone*, Coltournanche-Dent d'Hérens.
- **Bolzano.** Bollettino mensile. Rivista dell' Alto Adige. Anno 6. 12 x 8½: ill. 1924
 Articles: I. Monti Pallidi, Dolomiti : *C. Bonatta*, Dolomiti d'Inverno: Rifugi alpini :
 — Cenni e dati sulla sua opera, Statuto e regolamenti. 6½ x 4½: pp. 52. Torino, 1923
 — G. B. Calegari, I rifugi alpini delle nuove provincie. 9½ x 6½: pp. 63. Bolzano, Ferrari, 1924
- **Lucca.** Il Rifugio Pania. 11 x 7½: pp. 11. 1924
 — **Milano.** Regolamento. 6½ x 4: pp. 15. 12 Marzo, 1923
 — Itinerari alpini, serie Ia. 5½ x 4. 1917
 10 separate small sheets with sketch-maps and illustrations.
 — Itinerari di gite effettuabili da Milano in 1, 2 e 3 giorni. 6½ x 4½: pp. xx, 170. 1921
 — Ernesto Mariani, Cenni geologici sul gruppo delle Grigne. Pubbl. in occasione del cinquantenario d. sez. di Milano. 11½ x 8½: pp. 36: map, ill. Milano, Bertieri, 1923
 — Giovanni Bertacchi, L'eterno 'Excelsior.' Conferenza 4 Dic. 1923
 Cinquantenario d. Sezione. 8½ x 5½: pp. 16. 1923
- **Padova.** Il Gornice ed il Gruppo del Popera. In augurando il Rifugio Popera. 6½ x 4½: pp. 109: map, plates. Agosto, 1924
- **Roma.** Tra i monti del Lazio e dell'Abruzzo. A Ricordo del Cinquantenario della sua fondazione. 10 x 7½: pp. 101: plates. Roma, 1924
 This contains some fine views of the Gran Sasso.
- Soc. Alp. Trident. La Gazzetta del Turismo Bollettino mensile, organo ufficiale. Anno 3. 14 x 9½: ill. Trento, 1923
- VOL. XXXVII.—NO. CCXXX. P

Club Alpino Accademico Italiano. Annuario, 1922-23. $9\frac{1}{2} \times 6\frac{1}{2}$: pp. 66: plate. Torino, 1924

This Club was revived in 1922: first started in 1904.

Contents: Statuto: *E. Canzio*, Alpinismo senza guide in Italia: *G. Laeng*, Il G.L.A.S.G. (started, 1907; now joins the C.A.A.I.): *A. Giannantonio*, 1923 l'ascensione senza guide, 1 ascen. Pta. S.W., Corno Giocà.

D.u.Os.A.-V. Mitteilungen. 50. Band. $12\frac{1}{2} \times 9\frac{1}{2}$: pp. 319. 1924

Articles: *J. Götz*, Hornbachkette: *R. Fried*, Hauser Kaibling: *F. Rigele*, Hohe Tenn: *W. Welzenbach*, Winterfahrten, Pta. Gnifetti, Finsteraarhorn: *K. Plank*, Tuxerkamm: *J. Leopoldseder*, Schafaipeu Sulzfluh S. Wand: *J. Steinlehner*, Kilimanscharo: *E. Hofmann*, Zahnkofel: *O. Langl*, Pasterze zur Adlersruhe: *E. Brückner*, Pamirexpedition, 1913: *R. Müller*, Zuckerhütl: *W. Schmidkunz*, Ortlergeschichten: *F. Simon*, Erstbegehung d. Nordwand d. Peldo, 1924: *K. Hermüller*, Gosaudäumling: *K. Weider*, Torstein S. Wand: *A. Dreyer*, Das älteste Zugspitzbuch: *F. Loewe*, Novemberfahrten, Umbrailsp., Similaun, Wildsp., Schrankogel: *R. Hüttig*, Preber im Winter.

Donaualand. Nachrichten. $12\frac{1}{2} \times 9$. Wien, 1921-3

Deutsch-Alpenverein 'Moravia.' Deutch-Akadem. Alpenvereins-Gruppe. Gedenkschrift des zehnjährigen Bestandes, 1913-23. $9 \times 5\frac{1}{2}$: pp. 60: plates. Brunn, 1923

Among new expeditions are: *K. Folla*, *O. Theimer*, 1912 Hölltorkogel N. Wand: *K. Folla*, 1912 Himmelwand v. N.; 1913 Perschitzkopf N.W. Grat; Klammerköpfe v. N.: *H. Klug*, 1910, 1917 Hochstelle S. Wand; 1917 Hochstelle S.O. Kamm; 1916, Schönpkopf S. Wand and N.W. Kante; 1916 Zuckerhut O. Wand; 1916 Kl. Leitersp.; Weissenbachsee S.O.; Weissenbachsp. various; Wischberg N.O. Wand; Kleinsp. v. N.; Kaltwasser Gamsmutter S.O. Grat; 1917 Hohe Gamsmutter N. Wand; Villacher Nadel; Cime delle Portate N. Wand: *K. Folla*, 1914 Höchste Gantsp. Abst. v. S.; 1921 N.W. Gantsp. W. Grat; 1915 Costa d. Pin Abst. v. W.; 1920 Dürrenstein Abst. W.; 1916 Spilucker Karsp. O. Grat.

The Ladies Alpine Club. $7 \times 4\frac{1}{2}$: pp. 48: plate of Kaisergerbirge. 1925

Ladies' Scottish Climbing Club. 17th Annual Record. 5×4 : pp. 34.

1924-25

Besides ascents in Skye and in Arran, alpine climbs are recorded of Blaitière, Charmoz, Drus, Aigs Rouges d'Arolla, Paradiso, Münch, Finsteraarhorn, Matterhorn, etc.

La Montagna. Settimanale d'alpinismo. $12\frac{1}{2} \times 8\frac{1}{2}$: Nos. 1-17 Torino, 1922

No more published.

Mazama. Vol. 11, No. 8. $19 \times 6\frac{1}{2}$: pp. 112: ill. December, 1924

This contains: *F. H. McNeil*, Mt. Adams: *F. W. Stadler*, West side Mt. Adams: *Agnes Campbell*, Fujiyama, etc.

Mountain Club of South Africa. No. 27. 9×6 : pp. 117: plates. 1924

Articles: *J. A. Whitworth*, Three weeks' climbing; ascents by — Bean, E. and J. A. Whitworth, 1923 of Kleinberg, Andensberg—previous ascents 1910, 1913; and with addition of — Long, Adolph's Kop, Wemmer's Hoek Peak; by J. A. Whitworth, — Cullingworth, New Year Peak: *K. Cameron*, Adar Mountains of Clanwilliam—ascents 1923 by — Hullack, — Primos, K. Cameron of Zuur Vlei Berg, Middelberg Towers, Tafelberg; by — Barnard, — Black of Twin Sphinx: *F. Berrisford*, Cedarbergen, new ascents of Spouts, Corridor Peak: *A. L. Hall*, Barberton Mountain land: *R. Primos*, Schurftberg and Witzberg ranges; ascents 1922 by K. Cameron, R. Primos, of Duivel's Berg, Schurft Berg: *E. S. Field*, Meiring Ridge Peaks, first traverse Andensberg to Brandwacht; ascent by E. G. Pells, W. M. Calder, W. H. Phear, E. S. Field of Western Peak: *E. G. Pells*, First ascent Horsehoe Peak, 1923 by — Field, — Calder, — Phear, E. G. Pells: *J. A. Whitworth*, Waaihoek traverse, 1923 by E. Lefson, A. Long, J. A. Whitworth: *R. Hallack*, Buffels Dome, 1923 by Mr. and Mrs. K. White, P. H. Andrews, M. and R. Hallack; ascents Milner Peak, Buffels Hoek Peak: *Mrs. C. Ross*, Ascents Mt. Kenya and Point Thomson; Fifty ways down Table Mountain: *J. W.*

Fraser, Valken Face 1923: *S. C. Morton*, Panda Crag two attempts, 1921 by — *Londt*, — *Berriaforde*, *S. C. Morton*; ascent by same with — *Conacher*, — *Terry*: *R. S. Yates* ascent, 1923 of *Bailey's Peak*.

The Mountaineer. Vol. 17, No. 1. $10\frac{1}{2} \times 7$: pp. 91. 1924

Articles: *H. Appleton*, Himalayas as a climbing field: *R. W. Montagu*, Mount Rainier: *E. S. Ingraham*, Ascent Mt. St. Elias—discovered by *Vitus Behring*, Russian, 1741; in 1877 *C. E. S. Wood* tried to reach it; in 1886 *New York Times* financed expedition, Lt. *Schwatka* reached 5800 ft., — *Libbey*, *H. W. Seton-Karr* reached 7,200 ft.; in 1888 English reached 11,460 ft.: in 1890–91, *I. C. Russell* reached 14,500 ft.: in 1897 *H. S. Bryant's* party made attempt; in 1897 ascent by *Duke of Abruzzi*: *J. T. Hazard*, Mt. Rainier *Kautz* climb.

Natal Mountain Club. Circulars 2 and 3. 13×8 : p. 1 each. 1924

Nederl. Alpen-Vereeniging. Mededeelingen. $9\frac{1}{2} \times 6$: pp. 177–270: plates.

Articles: *P. W. Bonthius de Vries*, Op skis over den Wildstrubel: *I. W. Sturm*, Op den Ortler.

Oesterr. Alpenklub. Oesterr. Alpenzeitung, 46. Jahrgang. $10\frac{1}{2} \times 7$: pp. 240. 1924

Articles: Zum Namen des höchsten Berges der Erde: *H. Wödl*, Nordkante d. Greifensteins: *H. Menzinger*, N.W. Wand d. Plansp.: *H. Kees-Zöbiger*, Magnerkamm: *W. Graf*, Musik und Bergsteiger: *A. Schmidt*, Ehrwalder Wetterwand: *O. Langl*, Paternkofel: *A. Horeschowsky*, Gr. Glockner d. d. Pallavicinirinne: *F. Kurz*, Gargellen-Madrishorn, Rotbühls-Valisera-Mittelberg, etc.: *O. E. Meyer*, Lyskamm: *Eleonore Noll-Hasenclever*, Ostflanke d. Mte. Rosa, Dufoursp. u. Grenzgifel, Abst. z. Marinellihütte u. Abst. z. Bétémphütte: *G. Heinsheimer*, Schobergruppe: *H. Nieberl*, Kl. Halt.

New ascents: *F. Malcher*, 1911 Portalet N.O. Grat: *H. Jungl*, 1920, S. Watzesp. O. Grat: 1921, *L. Obersteiner*, Eiskastenkopf S.O. Grat: *G. Künne*, Gr. Ramelkogel v. N.: 1922, *F. Haugy*, Silbersp. N. Wand: Schiefersp., N. Wand: *K. Hagspiel*, Maldonkopf S. Grat: *Geischneid* N.O. Grat: *J. Heiden-Hain*, Zwölfer, N. Grat: *M. Gämmerler*, Wetterwanddeck: *E. Röchl*, Scharnitzsp. S.W. Wand: *L. Obersteiner*, Triftkogel v. S.W.: *H. Moschitz*, Jägerkarsp. S. Grat: *K. Prusik*, Zahringkogel S. Grat: *G. Pichler*, Kl. Buchstein: *L. Obersteiner*, Kalte Mauer S. Wand: *H. P. Cornelius*, Piz Ot. N. Grat: *Piz d'Err* N. Wand: *J. Ittlinger*, Grosslitzner N.O. Grat: *H. Moschitz*, Habicht N.O. Wand: *M. Bertl*, Gr. Mörchner N.O. Grat: *Kl. Löffler* N. Grat: *R. Wölter*, Kristallsp.: *E. Schulze*, Dreihornsp.: *R. Damberger*, Hohe Warte N. Wand: 1923, *R. v. Techarner*, U. Wieland, April 24, guideless Mt. Blanc Commayeur-Chamonix: *W. u. H. Flaig*, Madrisa S. Wand: *W. Flaig*, Garneraturm S.O. Kante: Verstanklahorn N. Wand: Fluchthorn S.W. Grat: 1924, *R. Gerin*, Hohe Riffel S.W. Wand.

Oxford and Cambridge Mountaineering, 1924. $8\frac{1}{2} \times 5\frac{1}{2}$: pp. 96: plates.

Oxford, Holywell Press, 1924

Articles: *R. E. Priestley*, Mountain climbing and Antarctic exploration—plate of Mt. Lester, S. Victoria Land: *A. Lunn*, Origins of Oxford Mountaineering Club: *B. Donkin*, Alpine journey, 1924, Allalinhorn, Fletschhorn, Dom, Täschhorn: *B. R. Goodfellow*, Wanderings in Scotland, 1924, Sron na Ciche, attempt Storr Rock, Sgurr nan Gillian, Sgurr a Mhadaidh: In mem. *A. C. Irvine*: *C. H. L. Mallory*—with portraits: *Dora Butterworth*, Oxford University woman's mountaineering club, proposed: *H. Booth*, Fusshörner and Finsteraarh., 1924: Mte. Viso new variation E. face, 1923: Bowfell Buttress new on right-hand wall by Miss *Brenda Ritchie* and *M. Ritchie*.

The Rucksack Club. $4\frac{1}{2} \times 3\frac{1}{2}$: pp. 18.

1925

Rules and list of members.

S.A.C. Alpina. 32 Jahrgang. 10×7 : pp. lv, 336: ill.

1924

Articles: *M. Guinard*, Masif de la Vanoise: *O. P. Schwarz*, Kanadische Rockies, Mt. Whyte, Temple: *P. Montandon*, Bietschhorngebiet-Lötsch,

Breith, first ascent S.W. Face, 1923, Vord. Jägerhorn, S.E. arête, new 1923, Mittl. Baltschiederh S.W. arête new 1923: *J. Coaz*, P. Bernina 1850 (reprint): *E. Bürki*, first ascent Doldenh. E. arête 1923: *E. R. Blanchet*, Laquinh. W. Face: *H. Frölicher*, Dom E. Face, 1920: *A. Krupski*, Gwasmets N. Wand: *J. R. Schauk*, Ewigshneehorn 1 Best, 1841: *H. Hafers de Magalhaes*, Am Tronador: *D. Chervet*, Gastlosen.

New ascents 1923: *J. and T. de Lépiney*, Mt. Rouge de Pétéret, E. arête, d. N. arête: *E. Augusto*, Aig Noire de Pétéret, S. Peak: *H. Bregault*, etc., Pta. Baretti E. face, S. arête: Aigs du Diable Pte 4,109m.: *F. Ravelli*, etc., Gdes. Jorasses Pte. Walker: Aig de Leschaux S.W. arête: *E. de Gigord*, Flèche Rousse: *T. and J. de Lépiney*, Col d. Nantillons: *O. Hug*, *M. Kurz*, Gde. Fourche N.E. arête: *F. Malcher*, Portalet N.E. arête: *M. Strumia*, etc., Gr. Tête de By S. arête: Aig Verte de Valsorey E. face: *I. A. Richards*, *Miss D. E. Pilley*, Picion Epicoun S.E. arête: *Fritz Keller*, Aouille Tseuque N. face: *C. Topali*, etc., Mt. Brûlé N. face: *Frl. Gracey*, Mt. Collon N. face middle arête: *W. v. Rougemont* alone, Besso N. arête: *G. Finch*, D. d. Hérens N. face: *F. Ravelli*, etc., Lyskamm W. peak, S. Face: *E. R. Blanchet*, Rimpfischh. N.W. face: Biederh. E. face: Schilth. N. arête: Jägigrat gendarme E. face: *F. Kreuzer* alone, Vord. Saash. S.W. arête: *E. v. Waldkirch*, Lötsch. Breith. S.W. face: *P. Montandon*, etc, Vord. Jägh. S.E. arête: *H. Salvisberg*, Tschingelsp. E. arête: *E. Zachmann*, Grünhörner-Fiescherhörner: *O. Hug*, Kl. Wanneh S.E. arête: *H. and A. Müller*, Salbitschyn, N. arête: Salbitturm: *H. Krupski*, Gwasmets, N. face: *E. Hauser*, Gemsfayer, N.O. Grat: *A. Zollinger*, Gemsfayer S. Wand: N. Teufelsstock v. Claridenfirn: *F. Schatzmann*, Panüler Schrofen W. Wand: *W. Flaig*, Madrisa S. Wand: Garnerturm S.O. Kante: Glöttersp. N. Grat: *S. Walcher*, 1920, Verhupsp. S.W. Wand: *W. Flaig*, Verstanklahorn N. Wand; Verstanklälücke v. N.: *M. Pfannl*, 1905, Piz Linard N.O. Grat: *W. Flaig*, Fluchthorn S.W. Grat: *E. Gretschnann*, 1921, Vallula N. Grat: *W. Flaig*, Vord. Satzgrat O. Grat: *F. Bischofberger*, Widderalpstöcke N. Wand: Freiheit v. S.O.: *W. Risch*, 1921 Gleckhorn W. Wand, Ago di Soiora Westgipfel: *M. Wieland*, Apr. 1924, Mt Blanc crossed ski.

— *L. Echo der Alpes*. 60^e année. 8½ × 5½: pp. 500: plates. 1924

Articles: *H. Builer*, Montagnes de l'Ahaggar: *C. P. Topali*, Arête N.N.O. du Mt. Collon: *E. R. Blanchet*, Deux nouveaux itinéraires aux Petits Charmoz: *C. Jeanneret*, Dent Blanche par l'arête des IV ânes 1918: *W. Brack*, Gdes. Jorasses: *C. J. Guillardmod*, Toponymie du massif de la Dent du Midi: *C. P. Topali*, Gendarmes d. Aig Rouges d'Arolla: *H. Moulin*, La montagne dans l'histoire des religions: *P. L. Mercanton*, Première ascension du Beerenberg, 1921: *L. Seylaz*, Gr. Muveran par l'arête d. Ancrenaz.

— *Die Alpen*. Les Alpes. Monatschrift des S.A.C. No. 1. 10½ × 7½: pp. 40. Mitteilungen are added pp. 16. Bern, Janvier, 1925

This new publication takes the place of the Jahrbuch, Alpina and Echod Alpes.

— *Blümlisalp*. Die ersten fünfzig Jahre des Alpenklub Thun und der Sektion Blümlisalp 1874 bis 1924. 9 × 6: pp. 127: ill. 1924

A very well composed Denkschrift. Numerous first ascents by members: list of *E. v. Fellenberg*'s first ascents, 3 of Lobhorn 1876, 8, 80: 6 of Hint. Spillgerte 1877-9, 84, 91-92. Among the numerous illustrations are portraits of *G. H. Dufour*, *Rud. Gerwer*, *E. v. Fellenberg*, *Th. and G. Studer*, *Andreas Fischer*, *P. Montandon*.

— *St. Gallen*. Jahresbericht. 8½ × 6: pp. 42. 1925
Contains: *O. Huber*, Alpine Literatur.

Sierra Club. Circular No. 10. 9½ × 6½: pp. 4. Sept.-Oct., 1924

Soc. des Touristes du Dauphiné. Annuaire 43, 1920-23. 1924

Articles: *H. Ferrand*, Le pic de Belledonne et son premier guide, la père Marquet: *M. G. Letonnelier*, La glaciologie et la documentation historique: *M. B. Beudant*, Jean Collet, in mem.

Yorkshire Ramblers' Club. Annual Report. 8½ × 5½: pp. 17. 1923-24

New Books and New Editions.

- Algemeine Bersteiger-Zeitung.** 1 and 2. 19 × 12: later 16 × 11½.
Wien, 1923-4
- Articles: *L. Landl*, Alpinistik im Film: *A. Horeschowsky*, Pallavicini Renne des Grossglockner: *W. Flaig*, Silvretta: Neue Touren, 1923, *R. Gerin*, Hoher Tenn W. Grat, Mittl. Bärenkopf, N. Grat: *O. Molifor*, Hochfor, Bergsteigerroman: *L. Sinek*, Westalpenfahrt; Kl. Zinne: *H. Pfannl*, Kl. Buckstein: *E. Dabelstein*, Watzmann O. Wand: *H. Sachs*, *W. Mikulic*, Kasbek: *R. Hamburger*, Winklerturm.
- Allix, André.** Avalanches. In *Geogr. Rev.* 10 × 6½: pp. 519-60: ill.
New York, October, 1924
- Baud-Bovy, Daniel:** avec la collaboration de H. F. Montagnier. Le Dent du Midi, Champéry et Val d'Illeiez. 9½ × 6½: pp. 173: plates.
Genève, Boissonais, 1923
- Benesch, Fritz.** Führer auf die Raxalpe. 8. Aufl. 6½ × 4: pp. xii, 208: plates.
Wien, Artaria, 1925
- Der Bergsteiger.** Deutsche Wochenschrift für Alpinismus und Schilauf. 1 u. 2, Jahrg. 12½ × 9.
Wien, 1923-24
- Articles: *F. Nieberl*, Königsp.: *E. Gretschnann*, Hochblassen N. Wand: *K. Hernmüller*, Däumling: *F. Tursky*, Kitzsteinhorn: *J. Ittlinger*, Meije: *S. Minholy*, Krottenkopf: *O. Langl*, Hohe Veitsch: *K. Gebauer*, Wölzer Tauern: *G. Rappel*, Mte. Rosa u. Matterhorn: *H. Püchler*, Weisskogel: *A. Smekal*, Kasereck N. Grat: *K. Amort*, Watzmann O. Wand: *E. Gretschnann*, Totenkirehl O. Wand: *F. Rudowsky*, Hochalpenspitzen: *R. Werner*, Modeberg: *S. Stahnl*, Grosswand-Nordpfelner: *T. Zeh*, Allein d. d. Dachstein-Südwand: *J. Ittlinger*, Finsteraarhorn: *H. Führung*, Eisen-schuss v. Noden: *H. Reinl*, Däumling.
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- Mentions: Early Travel, 1856: Switzerland 1856-8, including Weisstor: 1859 Mte. Rosa: 1860 attempt Pelvoux with J. C. Hawkshaw, W. Mathews (reprinted from *Eagle*): Breithorn, Mte. Rosa, Lysjoch, Col Durand, Triftjoch. Adler, Strahlhorn, Mte. Moro, attempt Laquinhorn: 1862 Mt. Pourri, Grivola, attempt Eerins: 1863 Gdes. Rousses: 1864 Col de la Muande: 1867 Ortlor: 1869 Norway: 1872 Marmolata, Gr. Glockner: 1873 Schwarztor: 1874 Matterhorn. In all 110 ascents and 178 passes.
- Hooker, Wm. Dawson.** Notes on Norway; or a brief journal of a tour made to the northern parts of Norway, in the summer of MDCCCXXXVI (Unpublished). 8½ × 5½: pp. iii, 127: plates. Glasgow, Richardson, 1837
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- This quotes from Gen. Smuts on unveiling a war memorial on Table Mountain:

'The mountain is not merely something externally sublime. It has a great historical and spiritual meaning for us. It stands for us as a ladder of life—nay more—as the ladder of the soul, and in a curious way, the source of religion. From it came the Law, from it came the Sermon of the Mount. We may truly say that the highest religion is the religion of the mountain. What is that religion? When we reach the mountain summits, we leave behind us all the things that weigh heavily down below on our body and spirit. We leave behind all sense of weakness and depression. We feel a new freedom, a great exhilaration, an exaltation of the body no less than of the spirit. We feel a great joy. The religion of the mountain is, in reality, the religion of joy and of the release of the soul from things that weigh it down with a sense of weariness, sorrow and defeat.'

- Bernard, Lord Coleridge.** This for remembrance. London, Unwin, 1925
Pages 112-5: (? 1871):—

'One day we went up the Glärnisch, and in ascending the last 800 ft. I felt for the only time the difficulty in breathing which attacks those who climb aloft too rapidly. I had to stop for want of breath every dozen yards or so. Descending, our guide fell into a concealed crevasse, and we only pulled him out by keeping our heads and by a firm united effort. It was an awkward moment. On the way up we were nearly knocked into eternity, while on the side of a precipice, by a falling mass of hay contained in network . . . My advice to climbers is, never go out on a glacier expedition with inexperienced people, and especially with ladies. Once I was over-persuaded to go on such an adventure on the Gorner Glacier. Two ropes bound two parties of three each. My party was on the top of a ridge watching the other party, consisting of a guide, a lady, and a gentleman, descend the slope. The lady missed her footing, and in an instant with frightful rapidity the three disappeared from sight down a crevasse, which, curving in its descent, hid everything from view. The brother of the lady was tied on to me. His distress was terrible. We shouted with all our might down the awful chasm. No sound was heard. At last I heard a female voice exclaim: "I can't find my spectacles." As luck would have it the three had been arrested in their fall by a huge piece of ice which partially blocked the crevasse. It is a curious fact that sound will readily come up a glacier, but will not penetrate downwards. We lowered ropes and eventually rescued them. The lady had completely lost her nerve. She was bleeding profusely from the face and trembling in every limb. I volunteered, as perhaps the coolest of the party, to be tied to her, and alone I ultimately got her off the glacier in safety. I never felt so frightened and anxious in my life. I had to place her trembling foot in every step. The rope between us, therefore, being slack, any fresh slip of hers would on many occasions have dragged us down together. Nothing would ever induce me to attempt a similar expedition again. I may add that, though a fairly good rock-climber, I have never been a regular ice mountaineer. The cold which accompanies such climbing has always seemed to paralyse my activities.'

Life of Charles Lamb, by E. V. Lucas.

London, 1920

Vol. 1, pp. 278-80 : 1802 in Lake District :—

'The mountains were all dark with clouds upon their heads. Such an impression I never received from objects of sight before, nor so I suppose I can ever again. Glorious creatures, fine old fellows, Skiddaw, etc. I shall never forget ye . . . looking upon the last failing view of Skiddaw and his broad-breasted brethren : what a night ! . . . We have clambered to the top of Skiddaw . . . Oh, its fine black head, and the black air atop of it, with a prospect of mountains all about, and about, making you giddy . . . It was a day that will stand out like a mountain, I am sure, all my life. But I am returned, and you cannot conceive the degradation I felt at first, from being accustomed to wander free as air among mountains . . . After all, Fleet Street and the Strand are better places to live in for good and all than among Skiddaw. Still I turn back to those great places where I wandered about, participating in their greatness. After all, I could not live in Skiddaw. I could spend a year—two, three years—among them, but I must have a prospect of seeing Fleet-Street at the end of that time, or I should mope and pine away, I know. Still, Skiddaw is a fine creature.'

Ossian.

Edinburgh, Black, 1858

pp. lxxxvii-lxxxviii : (c. 1800) :—

'To hunt the fowls upon the precipices requires that at least two be in company. A rope about 30 fathoms in length made of the hide of a cow is provided. Of this rope each fastens one end about his middle. One fixes himself in a firm posture on the top of the precipice while the other descends, and when he has proceeded to the extent of the rope he chooses a shelf on the face of the precipice where he can stand firmly, so should one fall to the full extent of the rope the other can generally sustain the shock.'

Postage Stamp. Mount Everest expedition 1924, View Everest white on blue.

PROCEEDINGS OF THE ALPINE CLUB.

THE ANNUAL GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Monday, December 16, 1924, at 8.30 P.M., Brig-Gen. The Hon. C. G. Bruce, C.B., M.V.O., *President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Mr. Claude Henry Bosanquet, Mr. Charles Kenneth Mackinnon Douglas, Mr. Hugh Edmund Elliot Howson, and Mr. Ronald Ogier Ward, F.R.C.S.

The *PRESIDENT*, in accordance with the provisions of Rule 29, there being no other candidates, declared the following Members nominated by the Committee to be duly elected as Officers of the Club and Members of Committee for 1925 :

As Vice-President.—Mr. John J. Withers, C.B.E., in place of Dr. Claude Wilson, whose term of office expires.

As Members of Committee.—Lt.-Col. E. F. Norton, D.S.O., M.C., Mr. C. A. Elliott and Mr. Charles H. Pasteur, in the places of Mr. R. Corry and Mr. A. F. R. Wollaston, whose terms of office expire, and the late Mr. G. L. Mallory.

The President, Brig-Gen. The Hon. C. G. Bruce, C.B., M.V.O., the Vice-President, Mr. A. D. Godley, the Honorary Secretary, Mr. Sydney Spencer, and the other Members of Committee, being eligible, were re-elected.

Sir ALEXANDER B. W. KENNEDY proposed, and Mr. H. G. WILLINK seconded, that Mr. W. M. Roberts and Mr. H. J. Macartney be reappointed Auditors to audit the Club Accounts for the current year. This was carried unanimously.

The PRESIDENT moved a resolution, of which notice had been given, that the sum of £100 be contributed from the Club funds to the Mt. Logan Expedition, now being organized by the Alpine Club of Canada. This was seconded by Capt. J. P. FARRAR, and duly passed.

A vote of thanks was accorded Mr. R. W. Lloyd for his work in connection with the Exhibition of Swiss Colour Prints.

Lt.-Col. E. F. NORTON, D.S.O., M.C., then read a Paper entitled 'The Problem of Mount Everest,' which was illustrated by lantern slides.

Discussion followed, in which Dr. T. G. Longstaff, Mr. N. E. Odell, Capt. G. I. Finch and the President took part. Lt.-Col. Norton was accorded a vote of thanks for his most interesting Paper.

An exhibition of Swiss Colour Prints was held in the Hall of the Club from Monday, December 1, to Tuesday, December 30, 1924, and in connection therewith an 'At Home' was held on Tuesday, December 16, when about 500 persons—Members and their friends—attended.

THE ANNUAL WINTER DINNER was held in the Edward VII Rooms, Hotel Victoria, on Tuesday, December 16, 1924, at 7 P.M., Brig.-Gen. The Hon. C. G. Bruce, C.B., M.V.O., *President*, in the Chair. There were present 253 Members and guests, among the latter being His Excellency The Belgian Ambassador, His Excellency The Swiss Minister, Monsieur le Commandant F. Regaud, *Président du Club Alpin Français*, Monsieur le Baron F. Gabet, *Ex-Président du Club Alpin Français*, The Rt. Hon. Lord Blanesburgh, G.B.E., Sir William H. H. Vincent, G.C.I.E., K.C.S.I., Maj.-Gen. Sir Webb Gillman, K.C.M.G., C.B., D.S.O., Sir Cyril Kendall Butler, K.B.E., Mr. H. Plunket Greene, and Mr. Arthur R. Hinks, C.B.E., F.R.S.

A GENERAL MEETING was held in the Hall of the Club, 23 Savile Row, London, W. 1, on Tuesday, February 3, 1925, at 8.30 P.M., Brig.-Gen. The Hon C. G. Bruce, C.B., M.V.O., *President*, in the Chair.

Mr. Cyril G. Wates was balloted for and elected a Member of the Club.

In accordance with notice given, The PRESIDENT moved that Rules 6, 7, 8 and 9 be amended. The proposed New Rules were discussed, and an amendment to the proposed Rule 6 was moved, seconded, and carried by a majority. This entailed a precisely similar amendment to the proposed Rule 8, which was agreed to. The remainder of the proposed New Rules were duly passed *nem. con.*

The PRESIDENT announced with regret the deaths of Mr. Charles E. Thomson, elected in 1898, who had been a frequent attendant at the Meetings of the Club, and Mr. S. B. Peech paid tribute to his memory. Col. R. G. Rows, elected 1911. Dr. H. R. Roger-Smith, his climbing companion, gave the members present a short account of his climbing career. W. A. Pegge-Burnell, elected in 1889. He died at an advanced age.

Lt.-Col. E. L. STRUTT then read a Paper entitled 'Post-War Frivolities,' which was illustrated by lantern slides. Discussion followed, in which a number of members took part, and was concluded with the passing of a cordial vote of thanks to Lt.-Col. E. L. Strutt.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, March 3, 1925, at 8.30 P.M., Mr. John J. Withers, C.B.E., *Vice-President*, in the Chair.

The following candidates were balloted for and elected Members of the Club, namely, Mr. Ronald Macmillan Algie, The Rev. Roger Bulstrode, Mr. Edward Oswald Shebbeare, and Mr. William Arthur Wright.

The HONORARY SECRETARY and TREASURER, Mr. Sydney Spencer, presented the Accounts for 1924. The CHAIRMAN proposed and Mr. A. L. MUMM seconded that the Accounts for 1924 be adopted. This was unanimously agreed.

It was proposed by the CHAIRMAN and seconded by Mr. A. L. MUMM that a vote of thanks be accorded Messrs. W. M. Roberts and H. J. Macartney for their work in auditing the Club Accounts. This was carried with acclamation.

The CHAIRMAN announced with great regret the death of Sir James H. Ramsay, Bt., LL.D., Litt.D., at the age of 92. He was the oldest Member of the Club, having been elected in 1859. Also that of Sir T. Clifford Allbutt, K.C.B., M.D., F.R.S., elected in 1870. Obituary notices appear in this number of the Journal.

Mr. A. M. CARR-SAUNDERS then read a Paper entitled 'The Aiguilles Rouges of Chamonix,' which was illustrated by lantern slides. Discussion followed, and the proceedings terminated with a very cordial vote of thanks to the reader of the Paper.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, March 31, 1925, at 8.30 P.M., Brig.-Gen. C. G. Bruce, C.B., M.V.O., *President*, in the Chair.

Mr. Robert Frederick Strickland-Constable was balloted for and elected a Member of the Club.

The PRESIDENT referred to the deaths of The Rt. Hon. The Marquess Curzon of Kedleston, K.G., etc., who was elected an Honorary Member of the Club in 1905, and Mr. R. S. Mushet, elected in 1893.

Mr. L. ASHWOOD ELLWOOD then read a Paper entitled 'The Transylvanian Alps and the High Tatra,' which was illustrated with lantern slides.

Discussion followed, in which Mr. Reginald Graham and Dr. Hugh Roger-Smith took part, and the proceedings were closed with the passing of a cordial vote of thanks to Mr. Ellwood for his very interesting Paper.

THE ALPINE JOURNAL.

November 1925.

(No. 231.)

NOTES ON THE ASCENT OF THE MATTERHORN BY CARREL'S
GALERIE AND THE Z'MUTT ROUTE.

[Written not later than early 1908.]

BY THE LATE SIR EDWARD DAVIDSON.

[The following article was found among the papers of the late
Sir Edward Davidson marked :

'To BE KEPT and handed over to Captain Farrar (or
the Editor of the "A.J.") in case of my death.

'W. E. D.

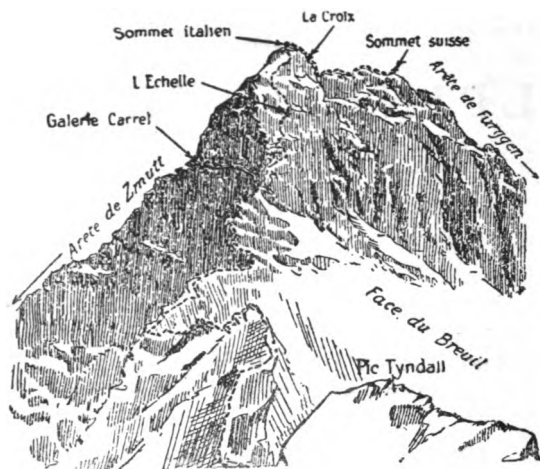
'1.6.19']

[Notes in square brackets are mine.—J. P. F.]

CARREL'S party soon *after* they had passed the 'enjambée,'
and were therefore on the final peak, struck out to the left
across the Tiefenmatten face and towards the Z'Mutt arête.
When some way across the face the slip ¹ occurred and they
were embarrassed by falling icicles, etc. Moreover, the climb-
ing became excessively difficult. They therefore, instead of

¹ [The original account in French, *A.J.* ii. 237 *seq.*, is very obscure,
but the information given many years after to Sig. Cav. Guido Rey
and printed at the end makes matters much clearer.]

continuing to traverse, started straight up towards the summit until they came across the ledge now known as Carrel's Galerie which they struck at a point from one-third to half-way across the face.



In their descent they followed the 'Galerie' in all its length, right across to the Breuil ridge and came out upon that ridge (or angle between the Tiefenmatten and Breuil faces) a little below the Col Félicité.

The Galerie route has been followed four times since :

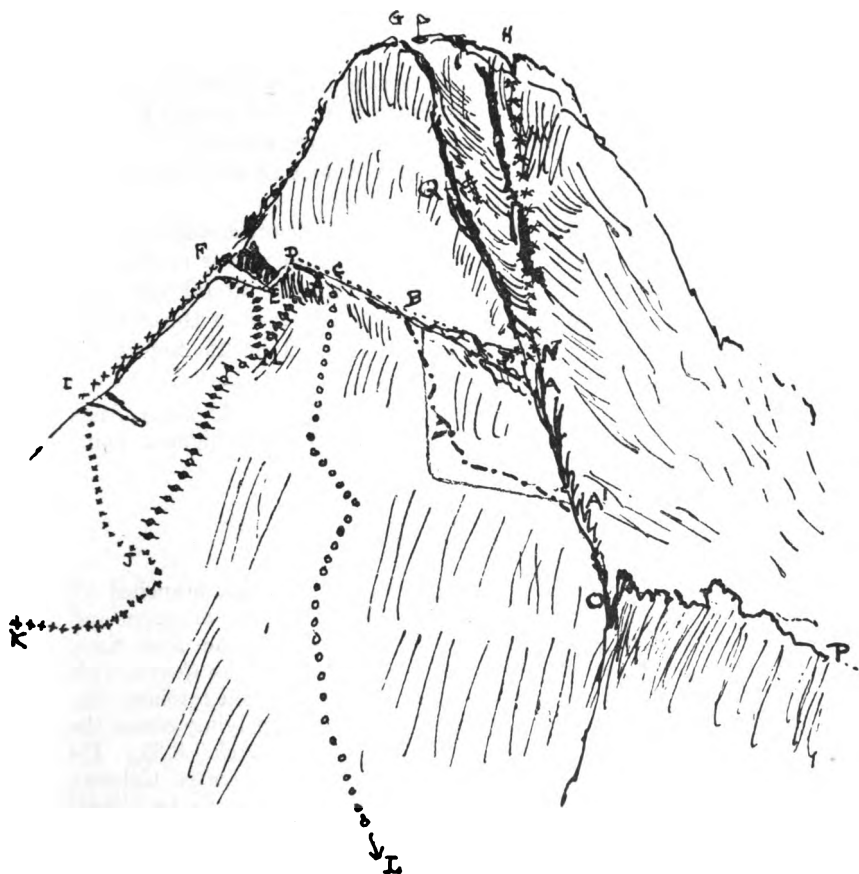
(1) In 1867 by Carrel himself, with Mr. Craufurd Grove, etc. They ascended and descended by the route of Carrel's descent in 1865, i.e. they followed the 'Galerie' in its entire length.²

(2) By Sir Edward Davidson, with C. Klucker and Daniel Maquignaz, on August 29, 1895. They almost certainly ascended by the route followed by Carrel on his ascent in 1865 and climbed up into the Galerie somewhat about half-way across. It was very difficult. They descended to Zermatt.³

² [I cannot find that Grove published any account of this ascent beyond a note in the *Saturday Review*, March 7, 1868, reprinted *infra*, the fragment in *A.J.* iv. 188, and the note reprinted in *A.J.* xxxi. 89.]

³ [His MS. diary for 1895 reads : 'Started across Galerie [i.e. the old line of Carrel's ascent] at 9.10. The early part was exceedingly difficult, and we found to my great surprise a *piton* driven into the rock 55 minutes after we had started. Subsequently we found a

(3) By Captain Percy Farrar, D.S.O., with Daniel Maquignaz and a porter, in 1903 [September 3]. They ascended and de-



scended by the whole length of the 'Galerie,' and then went

second, and finally, when about halfway across the face, we found another *piton*. We also found the cork of a wine tin near the same place. We arrived at the fault, which is quite close to the Z'Mutt ridge, at 10.40; and here we fixed a *piton* which we had brought with us and let ourselves down by the spare rope doubled [this is where, on Carrel's first ascent, the Abbé Gorret and Meynet stayed behind to haul Carrel up on his return, but the climb up is really quite easy]. We started up the Z'Mutt ridge at 11.20.']

over the top of the Matterhorn to Zermatt by the ordinary route and 'L'Echelle Jordan.'⁴

(4) *By Sir Edward Davidson, with Joseph Pollinger, Heinrich Pollinger, and a porter*^{4a} who had never ascended a big mountain before (!), on September 4, 1906.

On this occasion the mountain was in magnificent condition, and the party took 30 minutes from the Breuil to the Z'Mutt ridge. They followed the 'Galerie' in its entirety and left the Breuil ridge at a much higher point than in 1895, and a little below the Col Félicité.

In 1895 the mountain was also in magnificent condition, and the party was a very strong one *qud* guide power and every member of it was in very good training and fit on the day. Yet we took 2 hours to cross from the Breuil to the Z'Mutt ridge, and the first 50 minutes of these 2 hours, before we

⁴ [My men were Daniel Maquignaz and a 21-year-old porter, Ange Perruquet. Times—left hut, 6.18; Whympers's highest point (letters on rock :

M. Luc EWAL

1861

C. + J. A.),

6.50; foot Corde, 7.22; W. end of Cravate, 7.50 (we branched off to visit the original Cravate hut, which lies off the line of ascent and involved step-cutting); reached hut, 8.16–8.20 (the first time, 1879, Daniel, then a porter, made the ascent of the Cervin with his uncle, J.-J. Maquignaz, the first thing he saw on reaching this hut was the body of a tall, black-bearded man lying across the door—Joseph Brantschen, *A.J.* ix 373–81); back, 8.35; Pic Tyndall, 8.55 (stopped 17 minutes); Col Félicité (enter Galerie), 10.3; on Z'Mutt arête, 11.9; summit, 11.38–44; back to Z'Mutt end of Galerie, 12.16–18; top of Carrel's chimney, 12.31; Col Félicité, 12.59–1.20; top Echelle, 1.45; summit, 2.2–18; Swiss summit, 2.24. The ascent was made the same day as Messrs. Hope and Kirkpatrick followed the ordinary Italian route. They were directly above us when we were about half-way along the Galerie. From this point on the Galerie I believe the summit could be reached by a direct escalade. The descent from and *ascent* to the longer bit of the Galerie by the 'fault,' or Carrel's chimney, to or from the short lower level bit close to the Z'Mutt arête, is not difficult. Cf. also Mr. R. W. Lloyd's narrative, *A.J.* xxxiii. 191.]

^{4a} [Josef Imboden, chamois hunter of St. Niklaus. After the ascent Sir Edward remarks: 'The latter had gone most extraordinarily well all day, and is indeed a *rara avis*.']

reached the 'Galerie,' was extremely difficult—far harder than anything on the route followed in 1906.

The following rough sketch will give an idea of the routes :

SKETCH.

| | | |
|------------------------|-----------------------------|---|
| | = A B C D E F | = Ordinary route by Carrel's 'Galerie.' |
| — . — . — . — . | = A' B C D E F | = Route of Carrel's <i>ascent</i> in 1865. |
| o o o o o o o o o o | = L C D E F G | = Penhall's route—final part of. |
| +++ o-o-o-o | = K J M $\frac{E}{2}$ E F G | = Mummery's original route, 1879. |
| +++++ | = K J I F G | = Joseph Pollinger's route with the Duc d'Abuzzi and Mummery and Collie, 1894. ⁵ |
| o-o-o-o-o-o | = M F | = A variation on Mummery's original route which avoids the Galerie and the fault (D E), but is otherwise as dangerous from falling stones as is Mummery's original route. |

O = L'enjambée.

OP = La Spalla.

Q = L'échelle (Jordan).

N = Col Félicité—approximately.

NH = The Route (much foreshortened), now disused, by
 . 'L'enjambée des trois Jean Baptistes.' I ascended
 by this route in 1889.⁶

⁵ [I question whether my party—Daniel Maquignaz leading—on August 31, 1894, was so far away from the Z'Mutt arête as this. We were forced out on the slabs, which were iced in places, only for a short time. The amount of diversion is, to some extent, governed by the amount of ice on the slabs. Those more to the right may get the sun earlier and dry quicker. We followed a somewhat irregular line dictated by the verglas.]

⁶ [There had been a rock-fall, carrying away the échelle, which was not replaced for some time; hence the opening of this new passage.]

I = The spot at which the correct, and safe, route from Z'Mutt reaches the arête.⁷ It is easily recognizable as the lower of two triangular strips of snow, of which F is the higher. From F to I the arête is easy. In 1895, going fast, we took 12 minutes from I to F and 30 minutes from F to the Italian summit. By the route K J I one is only exposed to danger from stones, etc., for 2 or 3 minutes; by Mummery's original route for a considerable time—30–45 minutes at least. The route K J I is now always followed by Joseph Pollinger and Daniel Maquignaz, who know this face of the mountain far better than anyone else. Daniel has made four or five ascents by the Z'Mutt route and one descent. Joseph has made about a dozen ascents, and one (the first) *descent* in which *he* (and not Zurbriggen, who had never been on this side of the mountain before) led the party.

I crossed the mountain the same day and saw the party [Miss Bristow with Pollinger and Zurbriggen who had ascended by the ordinary E face route] descending. Captain Farrar's party ascended from Z'Mutt the same day—and also Dr. Güssfeldt's with Emile Rey and César Knubel.⁸ The former

⁷ [The so-called Z'Mutt arête is not continuous to the summit. About 1½ hours above the prominent towers which succeed the lower snow part of the arête, the arête abuts against the edge of the Tiefenmatten face, making nearly a right angle with an arête which leads upwards to the summit. This upper arête does not, as such, actually connect to the lower arête, as it is driven in at the angle by the intrusion of the head of the great couloir which lies between the lower part of the main arête and the mass of the mountain. To circumvent this intrusion a diversion has to be made out on to the slabs of the Tiefenmatten face. The closer one can keep to the left the better—*i.e.* the narrower this diversion the better. See note *infra*.]

⁸ [We all bivouacked close together. My party led all day, and on the descent we met the Doctor's party (ascending) on the Tiefenmatten slabs. Emile Rey, in a bivouac, was marvellous in the manner he saw to his *monsieur*, and on rocks he was a beautiful mover: he had a great reach. I never saw him on ice, but his work on the S. side of M. Blanc speaks. The Doctor was about fifty-three, and a bit heavy. He had been, as a younger man, a most enterprising and right valiant mountaineer, and his resolution was still very great.]

party descended to Z'Mutt and the latter by the ordinary way to Zermatt. [Friday August 31, 1894.]

Captain Farrar's party, of course, arrived at the top long after the [Miss Bristow]-Pollinger-Zurbriggen party had left it,⁹ but he caught that party up on the way down—so that he may be said to have made the joint first *descent* by the Z'Mutt route.

Joseph Pollinger, who had been selected by Mr. Mummery to lead himself and the Duke of the Abruzzi [and Dr. Collie] in their ascent, of a few days before, from Z'Mutt, was also selected to lead Miss Bristow in the descent. He was at this time only a porter nominally, and under twenty-one years of age, but he was a good enough guide to discover the safe route K J I, and to lead his party that way, notwithstanding that Mr. Mummery indicated to him the route by which Burgener had previously led him in 1879.

In note 81, page 319, of the English translation [of Signor Cav. Guido Rey's great book] it is stated that Mr. W. Penhall went up by a 'SLIGHTLY *different route*' from that followed by Mr. Mummery.

The Penhall [final] route was—up to the point where it struck Carrel's 'Galerie' at C—an entirely different and distinct route. From C both climbers followed Carrel's route of 1865. Mr. Penhall's route was, I think, a very bad route,

⁹ [We met Miss Bristow, a pupil of Mummery's—she could move—and her guides on the Tiefenmatten slabs at 10.45. They were rather further out than we were. We got back to the upper Z'Mutt arête at 11.10 and to the top at noon exactly, so their party had a start of us of about $1\frac{1}{4}$ hours and, say, $\frac{3}{4}$ hour = 2 hours. We caught them up on the path a little before Staffalp. Miss Bristow's party and ours had already bivouacked for this ascent on the night of August 28-29. They led off, but both were compelled, by the stormy outlook, to turn back below the teeth. On returning to Zermatt I told Mummery of my proposal—I knew full well my leader would never demur—to ascend and *descend* by the Z'Mutt. He expressed surprise at this, as though such a possibility had not entered his head, and asked me how? When I told him he said no more to me. Joseph Pollinger was in those days about twenty—looked all legs, with eyes of the bluest. He already gave every promise of speedily becoming the great master which, by general consent, he has now long been. Mattias Zurbriggen was about forty, a good-looking man with a fiery red beard. He had had great experience, and was undoubtedly an able guide. I remember he wore crampons, which I first took to three years later for an ascent of the Höfats in Algäu, where they are needed !]

but it had, and has retained, the merit of novelty at any rate. In 1895 and in 1906 it could, I think, have been repeated without very great difficulty, and the upper part of the route is not probably quite so dangerous from falling stones as the upper part of Mr. Mummery's *original* route; but the middle section of the route is, I believe, far more difficult and also more dangerous.

Captain Farrar says of Carrel's 'Galerie': 'The Galerie starts 25 minutes below the Echelle Jordan. . . . It is not so much a corridor or ledge as I expected, but is rather the upper edge of the Tiefenmatten face, where it abuts against the precipitous final rocks. I thought it was going to be very difficult, as the ground looked, till one was actually on it, almost impossible, and I, mentally, several times, took off my hat to the bold climber who first passed that way.

'But actually we had no *great* difficulty—it meant simply *extreme* care. We left no rope at the descent from the higher to the lower level [i.e. at D E.—W. E. D.], and climbed it on our return with a little trouble. The length of the traverse made it trying. I do not remember any traverse of equal length elsewhere.

'It is a most interesting climb—one that I shall always remember vividly.'

. . . It was Penhall and not Mummery who was the first to try this route and to demonstrate its feasibility up to the teeth. He would undoubtedly have made the first ascent, as he deserved to do, but Mummery not ungenerously [*sic*] stepped in, and robbed him of the natural fruits of his labour.¹⁰

¹⁰ [Both Penhall's and Mummery's narratives (*A.J.* ix. 449 *seq.*), even with a good knowledge of the mountain, are very hard to follow, and the diagram hardly helps things. Penhall, led by Ferdinand Imseng, on their first attempt on September 1, 1879, apparently gained the snow arête of the Z'Muttgrat by much the same route as is taken now, and followed it to above the second great tooth. It was too late to go further, so they descended and bivouacked on a patch of rocks on the arête. Next morning the weather was bad, so they descended to Zermatt. On the way down they met Mummery and Burgener coming up. The same night (September 2) they started again at 10 and, strange to say—the text is very incoherent, but the line is marked on the diagram—they did not take their route of the previous day, but proceeded right out on to the Tiefenmatten face and climbed right up this, having to retrace their steps once, and only gained the upper Z'Mutt

On August 17, 1896, with Christian Klucker and César

ridge about $\frac{1}{2}$ hour below the summit—a piece of very bad mountaineering, as the whole route, up to the final ridge, is very exposed. (See, however, Sir Edward's possible explanation *infra*.) They had taken 17 hours from Zermatt.

Mummery's paper is none too clear. Alexander Burgener, then about thirty-five, was in command of the party, but Johann Petrus went ahead, unroped, all day. They bivouacked on 'a large stone-covered plateau, on the W. ridge of which, overlooking the Z'Mutt glacier, we found a suitable hollow. . . . Next morning we crossed the plateau, keeping to the right, as the huge ice-cliffs of the Matterhorn glacier . . . forbid all approach in their direction.' Anyway, by 5.50 they had gained the snow bit of the main arête, where they found Penhall's steps of the previous day, etc.

From this it would seem that they did, by some route or other, aim at and gain the lower Z'Mutt snow arête, the key of the ascent, and thus exhibited the same sound mountaineering as did Imseng on Penhall's party's attempt of September 1—abandoned, however, next day in favour of a thoroughly bad route. I have had to note before that Imseng was rather a desperate climber than a very sound mountaineer.

Mummery certainly had the advantage of watching Penhall's party on their first attempt on September 1, and, inasmuch as they adopted the route so far as it went, to that extent they benefitted; but beyond that they owed nothing to Penhall's party. I do not think they could be blamed for making the attempt, as Penhall had given it up—anyway for the time being. It was at that time greatly sought after, and men like Burgener, the conqueror of the Dru, and Mummery, though then little known, could not reasonably be debarred.

The diagram p. 264 of *Alpes Valaisannes* vol. ii. shows several routes on the Tiefenmatten flank of the lower Z'Mutt arête that do not seem to be dealt with or explained in the text.

It is difficult to reconcile Mummery's estimate of serious difficulty. Baumann, who repeated the ascent three days later with Petrus and Emile Rey, expressed an opinion as to the comparative absence of difficulty, which is quite in accord with modern ideas. My leader in 1894, Daniel Maquignaz, knew nothing of the route, which had only been repeated once since Baumann's expedition, but he was never for a moment in doubt; indeed, once the lower Z'Mutt snow arête is gained no first-rate man should have any hesitation. No doubt in the fifteen years between 1879 and 1894 the standard of sound mountaineering had made giant strides. I have never seen a greater master in route-finding than was Daniel.

It should not be forgotten that Conway was an early wooer of the Z'Mutt route (Penhall's narrative, *A.J.* ix. 449; my remarks, *A.J.* xxx. 184 and *A.J.* xxxi. 150).]

Knubel, I made an exploratory reconnaissance with a view of discovering whether the Z'Mutt ridge could not be reached, without unreasonable difficulty, from the Matterhorn Gletscher, and the ascent of the Z'Mutt arête made from the Lower Hut (Cabane Whymper) on the N.E. side of the mountain.

We left the Ryffel Alp at 5.30 A.M. in very uncertain weather, and stopped nearly two hours at the Schwarz See, as the weather continued threatening. Eventually we reached the Matterhorn Hut at 11.30 A.M., and left at 12.10 P.M.

From the hut we traversed the slopes of the Matterhorn Gletscher *below* the ice-cliffs until we came to some huge and very broken séracs, up which we forced our way, arriving on the upper plateau of the Matterhorn Gletscher (on to which Hudson's, Croz's, and Hadow's bodies fell in 1865) at 2 P.M. Thence we went upwards diagonally across the steep snow- and ice-slopes towards the Z'Mutt snow ridge, which we hit almost exactly at the spot where it is usually reached from the Tiefenmatten side in the ordinary ascent from Z'Mutt. There was a good deal of ice on the slope which we had to traverse, and step-cutting was continuous. We reached the Z'Mutt snow ridge at 4.10 P.M. and descended to the Tiefenmatten Gletscher, Staffel Alp, and Ryffel Alp, arriving at the latter very late the same evening.

This was the first time that the Matterhorn Gletscher had been visited since 1865, and the first time (nor has the expedition since been repeated¹¹) that the Z'Mutt snow ridge has been gained from this side. The expedition proved the feasibility of ascending from the Matterhorn Hut over the Matterhorn Gletscher to the Z'Mutt snow ridge, and thence, of course, to the summit of the peak by the usual Z'Mutt route. In ordinary circumstances the traverse of the snow-slopes about the Matterhorn Gletscher ought not to present much difficulty, but it would probably always require a good ice-man to force the passage of the ice-cliffs separating the lower from the upper plateau of the Matterhorn Gletscher. This part of the expedition might be dangerous—though it was not so in 1896—except for about two minutes during which we ran over blocks of ice, the débris of former ice avalanches.

It is quite a feasible route, however.

¹¹ [The route was repeated by Mr. Moore in 1908 (cf. *Jahrbuch S.A.C.* xlv. 283). Lately, somewhere, I saw this claimed as a *new* route! The Matterhorn glacier was visited by Mr. R. W. Lloyd in 1913 (cf. *A.J.* xxvii. 450).]

It may be interesting to mention, as showing that the idea of ascending the Matterhorn from Z'Mutt was in men's minds long before Penhall and Mummery successfully tried and accomplished it in 1879, that when I was on the summit of the Dent Blanche with Melchior Anderegg in 1876¹² he discussed the ascent by the route afterwards followed by Burgener when he led Mr. Mummery up it. Melchior said: 'Es geht, aber *ich* gehe nicht. Man muss einen Kopf von Eisen haben, der da gehen will. Das ist für . . .' (mentioning a well-known member of the Club who was then rather renowned for enterprise even to the verge of rashness).¹³

Ferdinand Imseng was also very anxious to try it with me in 1876 by the Grat—and not by the face—the route by which he took Penhall in 1879. This route was an entire afterthought, and would never have been tried at all had not Mr. Mummery's party been some hours ahead of Mr. Penhall's on the route which the latter had previously selected—on which they had attained a considerable height (*i.e.* as far as the teeth), and from which they had been temporarily driven back by bad weather.

I do not think that the best guides, even so early as 1875–6, had much doubt as to the feasibility of the route, but they thought it (as Melchior did) extremely dangerous from falling stones. This, experience has shown, is not the case when the proper route is taken, though the original Mummery-Burgener route was—as Mr. Penhall at the time pointed out—dangerous in its upper part, especially after mid-day. The route now followed, however, eliminates this specially dangerous portion of the route of 1879, and is not at all unduly risky.

W. E. D.

END.

[A letter dated March 6, 1908, from Sig. Cav. Guido Rey, is attached to Sir Edward's 'Notes'—which had been submitted to him. This letter gives a note of a conversation, some time before, while 'Il Cervino' was in preparation, between himself

¹² [Cf. *A.J.* xxx. 184.]

¹³ [The late Mr. Middlemore; but it is now admitted that he was condemned on a misreading of his narrative. Cf. In Memoriam notice, *A.J.* xxxv. 271. Middlemore's leader, Jaun, moreover, was Melchior's prize pupil!]

and Abbé Gorret, one of Carrel's companions, reading as follows :]

' Depuis l'Enjambée de l'Epaule à la tête [*i.e.* summit] il me paraissait de devoir continuer directement ; Carrel ne fut pas du même avis et il voulait côtoyer pour atteindre l'arête de Z'Mutt par une pente d'une inclinaison vertigineuse. Notre chemin était presque horizontal ; dans cette traversée folle Meynet fit un faux pas et, sans ma solidité, nous étions tous perdus. C'est alors que Bic dit que nous étions fous, etc.

' Il fallut donc changer chemin et se remettre à grimper tout droit, Carrel toujours en tête et moi second. Cette montée nous reconduisait vers l'arête¹⁴ ; j'étais content car j'avais toujours pensé que le bon chemin était par là-haut. Pour s'accrocher Carrel détache une pierre qui me tombe sur la main et roule en m'écorchant le bras. Enfin nous arrivons à un endroit presque raisonnable, mais il faudrait redescendre par un petit couloir perpendiculaire, etc.' [Evidently the fault or Carrel's chimney.]

[Sig. Cav. Rey also sends to Sir Edward a copy of ' Notes recueillies par G. Carrel,' published in *Rivista delle Alpi Appennini*, vol. ii., 1865. They do not contain anything fresh, and will be preserved in the Club Library with Sir Edward's original ' Notes. ']

The claim of a ' new ' route mentioned in note 11 reads as follows :

Times, Saturday, August 4, 1923.

' A NEW WAY UP THE MATTERHORN.

' (From our Geneva Correspondent.)

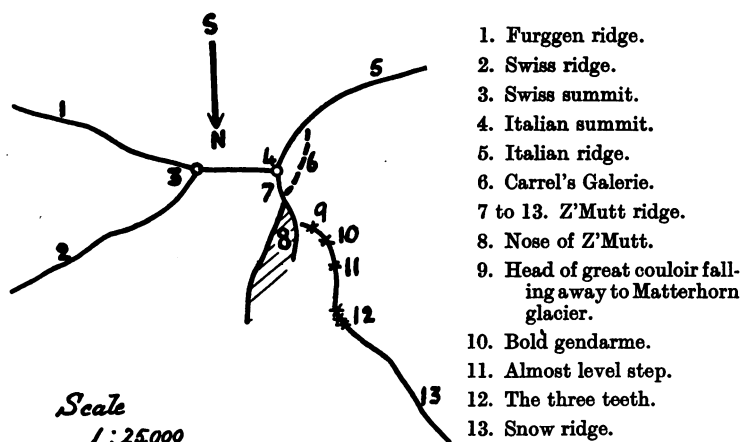
' The ascent of the Matterhorn (14,780 ft.) has just been made by a new route. Some years ago the guide Supersaxo made an attempt to reach the snow ridge of the Zmuttgrat by crossing the séracs of the Matterhorn glacier, but he failed. This route was taken last week by Mr de Bruyne, a Dutch tourist, with the guides Aufdenblatten and Gentinetta. The party crossed the Matterhorn glacier above the séracs, reached

¹⁴ [Gorret means that climbing straight up brought them more in the direction of the Breuil arête than their previous oblique line ; but they soon hit the Galerie and then turned along it towards the Z'Mutt arête.]

the Zmuttgrat, and thence attained the top of the Matterhorn.'

Oskar Supersaxo's own statement in *Jahrbuch S.A.C.* xlv. 283 contradicts the statement as to his failure. Moreover Sir Edward's passage of the Matterhorn glacier is well known in Zermatt. Thus not *any part* of this pretended *new* route is *new*.

Referring to note 7 Capt. G. Finch has been kind enough to construct a diagram.



He adds :

'Shortly below the point where Carrel's Galerie cuts the Z'Mutt ridge this ridge bifurcates into a short, western ridge and a longer, eastern ridge. The nose of Z'Mutt is formed by the precipitous face enclosed between these two ridges. Neither ridge reaches down to the Matterhorn glacier. The lower part of the Z'Mutt ridge does not quite connect with the western branch of the bifurcation of the upper part; the Z'Mutt ridge is therefore not a continuous one.'

Of his own ascent by the Z'Mutt arête—and he ought to be a judge of difficulty—he writes (in 1924) :

'Re difficulty of Z'Mutt ridge. I have only made ascent once, in 1911. We were two parties: (1) V. A. Fynn, F. Obexer (A.A.C.Z. President), and Maxwell Finch; (2) G. I. Finch, J. C. Case (the most talented beginner I have ever known), and E. Martini (one of the finest rock-climbers of the A.A.C.Z.).

'A heavy thunderstorm had left snow—though not much—on the mountain. We found ascent to beyond the three teeth (round which we traversed on the N. side) easy. Then bad traverse into couloir on left. Easy up to level step in Z'Mutt ridge. Driven by fresh snow off into couloir on left again. Ascended up couloir to gap on Matterhorn side of bold gendarme (this part was bad owing to fresh snow and cold). Followed ridge a short way, then worked out into Tiefenmatten face, cutting across a huge snow-slope about 250 ft. wide. Then work again became bad necessitating great care. Fynn kept almost straight up. I traversed out a bit more and then turned up again. Continually troubled by verglas, fresh snow, and sheets of ice between which and the rock underneath there was often an air space. We gained the Galerie at same time, my party at the foot of Carrel's chimney, Fynn's a good deal nearer to the Z'Mutt ridge. Galerie loaded with powdery snow, but easy all the way to Z'Mutt ridge and on to the summit.

'We all formed the opinion that the Z'Mutt ridge was, in such conditions, a difficult and big undertaking. Our times etc. are given in Dübi's "Walliser Alpen."

'I can only conclude that, when in the best of conditions, the Z'Mutt ridge may be a comparatively easy climb, but with fresh snow and verglas one is driven off the ridge a good deal and has to face really serious difficulties. . . . My party led through-out, up and down, but we asked for and took our instructions from Fynn.'

Whereas the Z'Mutt route has become a regular expedition the Galerie route has not been followed—or at least recorded—much since Sir Edward's time. Reference is made in 'A.J.' xxv. 359 to passages by Miss Meyer and Miss Brodigan. Mr. Lloyd, with Joseph and Adolf Pollinger, made, in 1919, the interesting combination of the Swiss, Galerie, and Z'Mutt routes, not previously done. He has described his experiences in a vivid article in 'A.J.' xxxiii. 190–192, of which perhaps the most remarkable and interesting incident is that this most redoubtable party for the first, and let us hope last, time in their experience slept out!

On August 29, 1923, Colonel G. E. Gask, with Joseph Péliissier and Camille, son of Daniel, Maquignaz, made the passage. He writes:

'I left the Italian hut at 5.20 A.M., arriving at the Col Félicité at 8.25 A.M. Here we turned to the left and traversed in a slightly downward direction over some rotten rocks

towards the Tiefenmatten face. About 30 metres along, we came across about 2 metres of old frayed-out rope lying close to but not attached to a rusty piton. We left it where it lay. We imagined it was a relic of some of the early parties. We waited for a few minutes because of a cannonade of stones started by a party on the Italian ridge. Before us was the Tiefenmatten face, which here is like a great wide-open gully, the edges being formed by the Italian and Z'Mutt ridges. About the middle is a well-marked ledge of rock, well seen in the diagram (p. 223). This is the "Galerie." It is not quite horizontal, but slopes upwards towards the Z'Mutt ridge; nor does it go right across, for it is cut off abruptly near that ridge, and Carrel's chimney has to be descended to gain, by a further short traverse, the Z'Mutt arête. We did not follow this ledge, but a smaller one just below it, which has a similar formation with the same abrupt ending on the Z'Mutt side. The whole traverse from the Italian to the Z'Mutt ridge took us just one hour, but we spent some time looking about us. The face was free of snow, and there was no extraordinary difficulty, and no place where a mountaineer of to-day would think of using a fixed rope. One can imagine, though, the feelings of Carrel on his first ascent: the terrors of the unknown and the terrifying aspect of the stupendous Tiefenmatten face, traversed for the first time, would have made the stoutest heart quail.

'The passage of "Carrel's Gallery" seems only to increase the admiration felt for that intrepid mountaineer.'

AN ASCENT OF THE MATTERHORN.

[Mr. Craufurd Grove's ascent from Breuil in 1867, reprinted from the *Saturday Review*, March 7, 1868.]

MOST people who have been in Switzerland—and everyone who has been anywhere has been in Switzerland—confess that they feel some curiosity about those strange highlands which of late years have been so thoroughly explored, and accounts of Alpine expeditions are often found interesting even by those who think that there was little sense in making them. Some description of a recent ascent of the Matterhorn from the southern side may not be dull for those who have seen that wonderful ruined pyramid blocking up the end of

the beautiful Val Tournanche. A peculiar interest, indeed, attaches to this peak; the Donjon of the Alps, holding out after the surrounding towers had fallen, the Matterhorn, or great Mont Cervin, placed in the very heart of the Pennine range, remained unscaled after every adjacent summit had been trodden under foot. Monte Rosa, the huge Mischabel Hörner, the Lyskamm, the Weisshorn, the Dent Blanche, and a host of minor peaks were surmounted, but the Mont Cervin remained unclimbed, apparently impregnable; and when, at last, the stronghold was carried, four out of seven assailants found a terrible death on the cliffs of the vanquished mountain. It is not necessary to describe the many attempts which were made to climb the Matterhorn before the summit was reached. These unsuccessful expeditions were all made on the southern side of the mountain, until, in 1865, Mr. Whymper and some other Englishmen tried the northern cliffs and reached the top. During the descent the well-remembered accident occurred by which four of the party lost their lives. Two days after this ascent four mountaineers of the Val Tournanche, who declined to take a traveller with them on account of the danger, attempted the mountain from the S., starting from Breuil. Two of these attained the summit, and the party returned in safety to Breuil, where they heard for the first time of the accident, the news of which had not arrived at the time of their departure.

The disaster which occurred on the northern rocks gave the Matterhorn a sinister prestige; a sort of superstition about it seized even brave and skilful guides, and for two years the final peak remained untouched. In the August of the past year, however, Mr. Craufurd Grove, a member of the Alpine Club, ascended the Mont Cervin from the S., passing over the whole route which it had taken so long a time and so many laborious efforts to discover on the most abrupt of European mountains. The northern side was, or was considered, impracticable on account of the unusual amount of snow which covered it; at all events, in the beginning of August, no guide could be found who was willing to try it, and at Zermatt the common belief was that an attempt on the Matterhorn, whether from the N. or from the S., was certain to end in disaster. On the southern face, however, which gets the full glare of the Italian sun, the rocks were bare, and the *chasseurs* of the Val Tournanche, who are very hardy and intrepid mountaineers, were ready to undertake the ascent of a mountain which they considered as their own, and to which they looked alike for

honour and profit. Three of these were enlisted for the expedition—Jean Antoine Carrel, a *bersagliero* who had fought at Novara and Solferino, and to whose admirable skill and judgment the success of the ascent was due; J. B. Bich and Salomon Meynet, both of whom worked excellently. Carrel and Bich were the two men who had made the previous ascent from Breuil. The party left Breuil at daybreak on the morning of August 13, and crossed the grass slopes to the glacier which lies under the great cliffs of Mont Cervin. An easy walk over gently inclined snow-slopes brought them to the foot of a snow couloir, leading to the Col de Lion, which lies at the foot of the great southern ridge of the mountain. Up this gully the explorers scrambled, and, quitting it a little below the col, climbed some very easy rocks to their right, and gained without the slightest difficulty the foot of the tremendous south-western arête or ridge of the Matterhorn. Here was the true starting-point of the expedition; the ascent to this place had not been in the smallest degree interesting or difficult, but with the commencement of the south-western ridge the whole character of the ascent changed. The cliffs of the Cervin were now to be encountered, and a way to be taken through those gloomy and precipitous defences which for so long a time had resisted all comers. It is necessary to say a few words about the shape of the western side of the mountain, in order to make intelligible any description of the route to the summit. The Matterhorn is singularly simple and severe in form. Probably no mountain in the Alps is so little encumbered with secondary ridges or subordinate peaks; the great arêtes fall unbroken and undivided, and to prop this immense pinnacle only one buttress has been needed—L'Épauule du Mont Cervin, which hangs over Breuil and the Val Tournanche. To the W. the mountain is divided with remarkable clearness and distinctness into two great arêtes or ridges, the northern and southern. The northern falls from the summit to the Zmutt Glacier, showing that well-known outline at which so many thousands of tourists have gazed from Zermatt; between this and the other arête is a great unbroken curve of smooth and most steep rock, for the most part hopeless and unassailable. The southern arête does not spring so directly from the summit as the northern, only becoming distinctly articulated at a point some distance below the peak, and running in a southerly direction to the shoulder, that great buttress of the mountain already spoken of, which is inferior in height to the Matterhorn itself only by 811 ft. At the

summit of the shoulder the ridge turns towards the W., and falls to the Col du Lion.

It was by this southern ridge that Professor Tyndall and Mr. Whymper made their numerous and determined attempts to reach the summit from the S., and it was by this ridge that the southern ascent was ultimately made; up this, therefore, the route on this occasion also lay. A very strange and beautiful route it proved to be. The slow irregular process of destruction in which nature delights has fretted and gnawed the battlements into the wildest Gothic towers and spires, and the explorer has to work his way round and under these, sometimes climbing to the arête, sometimes descending far below it, going up steep clefts and along narrow ledges, and over small sheets of snow, and finding those perpetual changes in the nature of handhold and foothold which give a peculiar variety and charm to the whole ascent of the Matterhorn.

The Italian Alpine Club, with great liberality, have caused a grotto or refuge to be made very high up on the shoulder, and Mr. Grove and his guides occupied the first day of their expedition in reaching this place. The way thither, though a fine climb, was not found to be very difficult, or in the least dangerous, as the careful Val Tournanche guides who have been employed to make the grotto have, in their frequent journeys to and from it, fastened ropes over most of the bad places. They have also given quaint names to portions of the route to the grotto. Thus there are *Le Col du Lion*, the starting-point; *La Cheminée*, a short steep gully in the rock, as cleanly and as regularly cut as though artificially made; *Les Degrés de la Tour*—a huge tower here rises on the arête, round the foot of which the climber passes by narrow ledges; *Le Vallon des Glaçons*, a very steep rugged gully in the rock; *Le Mauvais Pas*, a series of small shelves which run under the arête; *Le Linceul*, the ominous name of a very steep patch of snow which breaks for a small space the great front of the southern precipice; and *La Crête du Coq*, a cliff which Professor Tyndall and his guide, Bennen, had great difficulty in climbing when they ascended the shoulder in 1863. On the descent they found the place so dangerous that they fastened a rope to help them, which, of course, had to be left there; the Val Tournanche guides have now replaced this by a stronger and thicker one, which removes all difficulty. The ascent to the *Crête du Coq* brings the traveller once more to the arête, which is ascended to a place only some half-hour's scramble from the summit of the shoulder, where the

arête is quitted, and the *cravate* is traversed to the grotto or refuge.

This strange mountain-nest merits description. The *cravate*, or, as it was called before the Matterhorn was ascended, 'Le Collier de la Vierge,' is a thin band of snow crossing the southern face of the shoulder some three hundred feet below the summit of that buttress. At one place on the higher side of this band the rock first slopes back at a small angle, and then overhangs. A flat floor has been scooped out of the receding part of the rock, and a little hut erected under the shelter of the overhanging mass above, the snow in front forming a natural terrace or esplanade below which there is a tremendous precipice. It is impossible to give any idea by words of the utter isolation of this wonderful eyrie. The man who has reached it finds himself hemmed in on every side by the gigantic cliffs of the Matterhorn. A huge steep rock, round which he has twisted with difficulty, hides from him the path by which he came; on the other side the precipice sinks vertical and unbroken; above is a rugged overhanging mass, and in front the strange little terrace of snow, beyond which there is again a terrific fall. Many a cottage perched high up is called an eagle's nest; but this is in truth such a spot as an eagle or even a lammergeyer might well choose to build in, and probably nowhere else in the world has man made himself a resting-place so isolated and so hard of access. The height of the grotto is 13,655 ft., of the shoulder 13,976 ft., and of the Matterhorn 14,787 ft. The party arrived at this refuge in the afternoon, watched one of those Alpine sunsets which none but the profane ever try to describe, and coiled themselves up like marmots in the then half-finished hut. In the Alps a man can sleep anywhere, just as he can eat anything.

The party started at about half-past five the next morning to grapple with the difficulties of the final peak. Leaving the grotto, the traveller retraces his steps along the *cravate* to the arête; an easy climb brings him to the top of the shoulder, and to the signal which marks the point attained by Professor Tyndall and Bennen; from here the crest of the ridge is followed to the place where it abuts against the main peak. The arête is broken and jagged; one huge tower overtopping the summit of the shoulder has to be surmounted, as it cannot be passed on either side; and the whole, without being of excessive difficulty, gives an exhilarating scramble. It should be added that this part of the ascent is very trying to the head; the fall on the right is tremendous. Having passed along the ridge,

and standing at the foot of the main peak with all minor obstacles overcome, Mr. Grove and his guides came at last in view of what was at the time of their expedition the great difficulty of the southern ascent—the gallery, or corridor; and though this part of the route has already been superseded, and a shorter and easier way to the summit discovered, the passage of this grim causeway proved so strange a piece of mountain work as to be worth describing. At the time it was thought impossible to go from the head of the southern arête to the top of the peak; nor did Mr. Grove make any attempt to see whether this could be done; by following the route which had been crossed by the Italian guides in 1865, he was at least more likely to reach the summit than by tempting the chances of unknown precipices. But, pleasant as *mauvais pas* are ordinarily to the cragsman, there are places in the Alps which exceed the due limits of badness; and future travellers on the Matterhorn need not perhaps regret that the passage of the *galerie* will no longer be among the incidents of their ascent. The western face of the mountain plunges with extraordinary steepness in nearly continuous slabs almost from the summit to the glacier at its feet. Four thousand feet above this glacier the smooth slope is broken by a small ledge, inclined itself at a sensible angle. The polished rock is destitute of handhold above, and the climber must sustain himself by the grip of his feet or by the fineness of his balance on a space sometimes perhaps two or three feet, but sometimes, also, only as many inches, broad. If he leans against the rocks to his side he increases his chance of slipping; if he slips he falls, and with him fall the whole of his companions. Over this evil place the party slowly made their way, Carrel leading with admirable skill, and finding here and there a small chink in the rock where he was able to drive in nails with hooks at the end, through which the rope was passed. This gave a slight security in some places, but nevertheless the hour and a quarter passed in traversing *la galerie* are strongly marked in the memory of one of the party.

It is not possible to go straight from the end of the gallery on to the northern arête; the only way of reaching that ridge is to drop down a gully of which the top overhangs the base, so that it is of course necessary to fix a rope. Walking along a thin strip of snow at the bottom of this cleft the traveller comes out at last on the arête, and looks down on the Zermatt Valley—a sudden and marvellous change of scene—and then, by a fine climb up the difficult and treacherous northern ridge,

the summit of the Matterhorn is gained. The top of this famous mountain is a long thin ridge of snow, with some light undulations, the highest portion being near the western end; and, indeed, the general shape of the peak is very nearly what it appears to be from Zermatt; of course the western end, being further from Zermatt than the eastern, appears to be the lowest.

Mr. Grove and his guides stayed a very short time on the western end of the ridge, and then descended, as the day was well advanced when they reached the summit, and as it was uncertain how long a time the descent might occupy. They passed a second night in the grotto, and the next day descended to Breuil. A short time after Mr. Grove's expedition some guides of the Val Tournanche, who conceived the strange idea of taking a girl up the mountain, and who got her to the place where the gallery begins, discovered that it was possible to go from the head of the southern arête to the top of the mountain by a route shorter and less difficult than that leading over the gallery and northern arête. On a portion of this new way they fastened a rope. An English traveller, Mr. Leighton Jordan, who ascended, it is believed, by this route, not only explored the whole of the summit ridge, but actually descended some distance on the ice-covered northern side. After this the late autumn snow at length restored to the Matterhorn the repose which it had enjoyed for so many ages before Alpine Clubs were invented, and before men strove to set foot on the summits of great mountains.

THE AIGUILLES ROUGES OF CHAMONIX.

By A. M. CARR-SAUNDERS.

(Read before the Alpine Club, March 3, 1925.)

THE range of mountains which I am going to describe to-night must be well known by sight to most members of the Club. But, unless I am mistaken, the acquaintance of many English climbers with the Aiguilles Rouges of Chamonix is confined to the views of them obtained from the peaks of the Mont Blanc range. It may be a matter of chance that I have met very few English climbers when exploring the ground myself, and that I have not infrequently met climbers at

Chamonix or Argentière waiting in bad or doubtful weather for a chance to get on to the Mont Blanc range, oblivious of the fact that the Aiguilles Rouges offer good climbs which can be attempted when the weather is indifferent. I think that they are well deserving of attention for themselves, but they must inevitably suffer from their nearness to the Chamonix Aiguilles with their obviously greater attractions. Nevertheless, even if I underestimate the extent to which they are known, I do not think they are so familiar as to make some detailed description of them altogether unwelcome.

The neglect of the Aiguilles Rouges, if neglect it be, by English climbers does not stand alone. Climbers of other nations have apparently neglected them equally until recent years. And this neglect extended into the region of cartography. The only map in existence until 1921, when M. Vallot published the results of his own observations, was very inaccurate. Heights were as much as 100 metres wrong, and peaks were displaced horizontally as much as 600 metres. But this has now been put right by the publication of M. Vallot's map in '*La Montagne*,' No. 145 (1921), accompanied by a very useful description of the topography, and followed by an article by M. de Lépiney in the form of a climbers' guide to the range. It can be purchased in pamphlet form from the C.A.F.

The topography of the range is simple. It lies parallel to the range of Mont Blanc, and stretches a good 20 miles in a N.E.-S.W. direction. To the E. is the Chamonix valley; at a level of about 6000 ft. is a well-marked shelf on which the Flégère Inn and other convenient starting-points are situated. The peaks rise from this shelf, and reach their highest point in the Belvédère, just exceeding 10,000 ft. in height. On the other side the geography is a little less simple, owing to the fact that a ridge given off to the W. from the Belvédère divides the Vallée de Bérard on the N. from the Vallée de la Diosaz on the S. The route from one of these valleys to the other is by the Col de Salenton. In the Vallée de Bérard is an inn which, while chiefly used for the Buet, is available for attacks on the Aiguilles Rouges from the W. On this side of the range the glaciers reach some little size, whereas on the Chamonix side the two glaciers which do exist are so insignificant as usually to escape notice. To the W. there is no shelf as on the Chamonix side, and the peaks fall precipitously to the hanging glaciers, which themselves drop steeply towards the valley.

I propose to give some description of the range, beginning

at its southern end with the Brévent. In using the name Aiguilles Rouges to cover the whole range from the Brévent to the Col des Montets, I am using the name loosely. Properly speaking, so M. Vallot tells us, the southern end of the range from the Brévent to the Col de la Glière is called the Chaîne du Brévert, while the term Aiguilles Rouges is restricted to the range N. of the Col de la Glière. The best climbing is to be found in the Aiguilles Rouges, thus defined; but for the sake of completeness I propose to mention the Brévent, especially since a climb on that peak has acquired a certain notoriety at Chamonix. The rock of which the greater part of the range is composed is similar to that found in the Mont Blanc range, but it tends to be loose and rotten. On certain peaks great care is in consequence necessary. The small amount of snow, however, renders falls of stones more rare than they would be if the range was higher. The Brévent is composed of a different kind of rock, and the climb I am going to describe on that peak is not, so far as the condition of the rock is concerned, typical of the range as a whole.

While describing the climbs it should be remembered that, in addition to the interest which the climbs have in themselves, they have an added attraction from the fact that they command the most superb views of the Mont Blanc range. Further, the more northern peaks include part of the Bernese Oberland in the view, and to the W. from all the peaks the magnificent dolomitic range of the Chaîne des Fiz is visible.

Most visitors to Chamonix have seen the precipitous wall of the Brévent facing the valley. This face can be climbed by turning to the left above Planpraz, traversing horizontally to the foot of the nearby vertical E. face of the Brévent until the foot of the obvious 'grande cheminée' is reached. This chimney can be entered at the bottom and climbed to near its top, where further progress is impossible. This was the route followed by M. Beaujard on the first ascent. It is more usual to climb the rocks to the left for some distance before entering the chimney. The upper portion of these rocks is by no means easy, and the chimney itself is decidedly difficult. At the point where progress is no longer possible a way out can be found to the left, leading to a long and easy traverse to a point immediately below the summit, whence a chimney of some 70 ft. in height leads to the top, the climb ending with a scramble through the iron railings. We may have been unlucky, but during our climb two falls of rock took place, and we were lucky not to have suffered disaster.

On that account I do not recommend the climb, and I would not care to repeat it. It gives a false impression of the nature of the rock in the range in general, which is elsewhere of a wholly different nature. In addition, in the final chimney there may be some danger from ginger-beer bottles.

A brief mention may be made of the very attractive rock towers and pinnacles which jut out from the main ridge immediately N. of the Col du Brévent. Among them are the Clochers du Brévent, the Clochers de Planpraz, and the Clochetons de Planpraz. They give some first-rate climbing, and afford evidence that immediately N. of the Brévent the rock changes in character, and provides a much more attractive programme for an off day than the climb of the Brévent by the face.

I would especially recommend the Clochers de Planpraz, so prominent in the view from Planpraz to the right of the Brévent path. Other similar pinnacles exist further to the N.

Starting northwards along the ridge from the Col du Brévent, and passing over the somewhat featureless Aiguille de Charlanoz and Aiguille Pourrie, we reach the Aiguille de la Glière. This summit is easily reached from the Flégère Inn. From the Glière is given off to the E. a ridge which ends in the Aiguille de l'Index, on which the climbing is everywhere excellent. The usual route is from the Flégère to the Col de l'Index, between the Glière and the Index. The Index is then climbed by the W. arête. This is the easiest way, and gives two and a half hours of difficult climbing—difficult in the sense in which it is used in classifying English climbs. It is classed by M. de Lépiney as 'assez difficile'; he has two higher categories of difficulty, and it thus follows that there is climbing in the Aiguilles Rouges of considerable degree of difficulty. The chief trouble is the crossing of a slab which has to be effected in order to reach the bottom of a very steep couloir. The couloir leads eventually to an overhang, which makes it necessary to find a way out and to finish the climb by the S. arête. The Index may also be climbed by the S. arête throughout, and by the E. face, but these are more difficult routes.

From the other side of the Glière there extends into the Vallée de la Diosaz another ridge on which is situated a fine peak, the Aiguille du Pouce. The very existence of this peak is little known, and the climbing on it less known still. This summit can be reached from the Glière by following the ridge which joins them, and this gives two hours interesting but not very difficult climbing. The somewhat easier route is by way of the N. face, to reach which it is necessary, if coming from the

Flégère, to cross the main ridge by the Col de la Floriaz. This is in fact the best way of reaching the W. side of the peaks facing the Diosaz Valley, since there is no inn in that valley from which a start can conveniently be made. The S. face and the W. arête are said to offer extremely difficult and fine climbs.

Immediately N. of the Glière come the Petite and the Grande Aiguille de la Floriaz. The latter is well known as a view-point, but is of no especial interest otherwise to climbers. It is less well known that the Petite Aiguille de la Floriaz, which is nearly as high as the Grande Aiguille, gives two good climbs which can be conveniently made from the Flégère, one by the S.E. and the other by the N.E. ridges.

Between the Aiguille de la Floriaz and its rival view-point, the Belvédère, come the Aiguilles Crochues. A pass immediately S. of these points can be reached in about two hours from the Flégère, and thence the points known collectively as the Aiguilles Crochues can be traversed in about two and a half hours. There are three principal summits, of which the southernmost is the highest, and the traverse gives a good and by no means easy climb. It is curious that this very attractive expedition, so easy of access to Chamonix where generations of rock climbers have spent their holidays, should not have been made until 1920.

Perhaps it is because of the fact that the Floriaz and the Belvédère, the highest peaks of the range, are easy that climbers have jumped to the hasty conclusion that the range had nothing to offer them. If that is so, it is certainly a mistake. Both the Floriaz and the Belvédère provide good climbs for those who take them in preference to the ordinary route. The Belvédère, for instance, which can always be recognized by the curious cops of sedimentary rock which crown the summit, gives a good climb up the S.E. face. It is perhaps the finest view-point in the whole range.

North of the Belvédère are a number of peaks close together with a somewhat elaborate nomenclature. Many of these names are local names which were in existence before climbers came upon the scene. Some of them were christened by M. Charlet-Straton, one of the first explorers of the range. M. Vallot obtained much information from M. Charlet-Straton as to nomenclature when I was staying with the latter. It was he, in fact, who first taught me that the range had a very distinct interest of its own.

The first peak N. of the Belvédère is the Aiguille du Lac

Blanc, a decidedly difficult climb somewhat spoilt by the uncertain nature of the rock. Next comes the Aiguille de la Tête Plate, which may be climbed without much difficulty by its S. face, and is followed by the Arête Plate, a long and, in its lower northern section, broad and easy ridge. The Aiguilles des Chamois, which follow next, appear to be little known. They are said to give very fair climbing by more than one route. My only knowledge of them is derived from a climb up the northern ridge from the Col de la Persévérance, which crosses the ridge immediately to the N. of them. The lower part of this ridge is, in places, by no means easy. Higher up it is less difficult, but my explorations ended before reaching the top. I was, in fact, only led to scramble about these rocks one day when our true business was connected with the Aiguille de la Persévérance, which rises steeply on the other side of the Col de la Persévérance. This col is a narrow notch in the main ridge easily reached from the Chamonix side, but descending precipitously on the Bérard side. On that side it looks impracticable as seen from the top. The name Persévérance was given to this, in some ways the most attractive, point in the whole range by M. Charlet-Straton after he had climbed it with Madame Charlet-Straton on their third attempt. The first two attempts were made on the Bérard side, while their third and successful attempt was from the Col de la Persévérance. A rock tower rises steeply from the col, and it is usual to avoid the direct climb by traversing out on the steep Bérard face. It is soon possible to climb straight up and rejoin the ridge. Shortly after rejoining the ridge, the way is blocked by a low vertical wall of rock which cannot be circumvented. This is climbed by a stiff crack, from the top of which a sound but steep and narrow ridge leads to the summit. There is another and more difficult climb also from the Chamonix side by the S. arête.

M. Charlet-Straton is, of course, well known as having made the first ascent of the Petit Dru, and the *cabane* at its foot now bears his name. He also came near to making the first ascent of the Aiguille du Géant. Less well known is the climbing record of Madame Charlet-Straton. Miss Straton, as she was before her marriage, climbed in those mid-Victorian days when such exploits must have seemed truly remarkable. Sometimes she was accompanied by her friend Miss Lloyd; more often she climbed with her guide only. She made the first ascents of the Aiguille du Moine and the Pointe Isabella, which bears her christian name. More remarkable still was the first

winter ascent of Mont Blanc which she made in January 1876, and it was after this that she married her guide M. Charlet, who took the name Charlet-Straton. The *Persévérance* was her only notable subsequent climb. I had the remarkably good fortune to make her acquaintance when I was a school-boy, and I have spent a large part of many happy holidays in her house at Les Frasserands above Argentière. Madame Charlet-Straton died during the War; her death was, no doubt, hastened by the death in action of her son Robert, a sergeant in the Chasseurs Alpins. M. Charlet-Straton is happily still alive, and, I may say, much appreciates visits from English climbers who may find themselves at Argentière.

The steep Bérard side has attracted some attention. It does not seem to have been climbed.¹ I had a good view of its upper part when I made the climb by the usual route in 1914. Joseph Ravanel, who was with me, was much interested in the accident which had befallen a party in the preceding autumn. The accident² took place when the party was trying to make the first descent from the top down the Bérard face. A rope was said to have been left behind, and, with the object of finding it, Joseph set out to explore the face. This exploration lasted some two hours, and the impression I gained was that, while the face is everywhere difficult, a careful exploration should lead to the finding of a practicable route which would add a fine climb to the list of those which can be made from the Bérard side.

My climb was made on August 1, 1914, the only fine day in a week of wretched weather. The experience of English visitors in Chamonix seems to have been utterly unlike that of visitors in Switzerland. The possibility of war seemed very remote in a prospectively neutral country. In the Chamonix Valley excitement had reached fever pitch. Soon after reaching the valley we heard the village bell tolling at Argentière. Hurrying on we found the placard posted up ordering general mobilization. Events followed thick and fast. Amid the tragic incidents of hurried departure for the front, I remember a less tragic incident—the visit to the Charlet-Stratons, with whom I was staying, of the proprietor of a neighbouring hotel.

¹ It has been climbed recently by Armand and Georges Charlet, famous young guides of Argentière. The former described it to M. de Ségogne as the most difficult climb of his career, which means much.

² *A.J.* xxvii. 79.

He was terribly agitated ; his cook had been called up, and, worse still, insisted on leaving by the evening train. The dinner would be spoilt, and the reputation of his hotel for its excellent cuisine would be ruined. Wouldn't I, he implored, intercede and put before him the gravity of his decision in the eyes of English visitors ?

Close to the Persévérance, towards the N.E., there rise from the ridge the Aiguille Martin and the Aiguille de l'Encrenaz, fine-looking peaks but unknown to me. The Aiguille Martin is said to give a very fair climb, while there is said to be an easy route up the Aiguille de l'Encrenaz. At this point a spur is given off to the E., which ends in the Aiguille de la Remuaz. It is this peak which is so well seen from above Argentière. With its magnificent reddish cliffs, it appears to form the true end of the range. This is not so in reality, because the main ridge is continued to the N. from the Aiguille de l'Encrenaz. There is an easy way up the Aiguille de la Remuaz. The col between the Remuaz and the Encrenaz is climbed by means of a moderately steep snow slope. From the top it is a very easy scramble up the peak. The reward is a remarkably fine view. For those who are on the lookout for an expedition of the opposite kind, M. de Lépiney has described a very difficult direct ascent of the S.E. arête.

The main ridge which is continued to the N. is not visible from the valley of the Arve. It is seen from the road to Finhaut after the Col des Montets has been passed. I have not visited this end of the range. The two chief points, the Aiguille Morris and the Aiguille de Mesure, are said not to be difficult. I suspect that they have seldom been climbed. There is a most magnificent rock tower on the E. ridge of the Aiguille de Mesure, which M. de Lépiney climbed in 1920, and which he describes as very difficult. The Aiguille de Mesure is the last summit of any importance. The ridge sinks towards the N., rising again slightly to form three or four points known as the Aiguilles de Praz Torrent. This northern end of the ridge is familiar at least in profile to those who have climbed the Buét from the Bérard side, as it divides the upper Vallorcine Valley from the Bérard Valley.

The fact that so many fine climbs have only recently been made in the Aiguilles Rouges justifies, I think, the statement that they have been neglected. However this may be, my object has been to show that they have much to offer to the climber. Since the peaks are for the most part between 9000 and 10,000 ft. in height, they can be climbed in a short day

when the weather makes success with the greater peaks on the opposite side of the valley doubtful. But I think that the climber who has made his first acquaintance with the Aiguilles Rouges as a second-best on a doubtful day will return to them on fine days and will find his time well employed.

THE TRANSYLVANIAN ALPS AND THE HIGH TATRA.¹

By L. A. ELLWOOD.

(Read before the Alpine Club, March 31, 1925.)

'**S**ET peaks from Skye in the valley of Ceresole, and you have the Tatra.' Such was the fascinating description of those mountains a friend visiting them in 1923 sent me on a postcard bearing the postmark 'Strbske Pleso.' I could not find this unpronounceable name mentioned in any available guide-book or atlas, and I soon found that though of the physical geography of the district my knowledge was slight, of the present political geography it was less. Such ignorance was doubtless unusual, and I need only refer here in outline to the present geography of the Carpathians.

The Carpathians are a chain, separated from the Alps by the Danube, of some 800 miles in length in the form of a semi-circle running E. to W. and having its eastern extremity turned inwards. If we count its foothills it could thus be said to extend from the Danube, near Bratislava (Pressburg), to the Danube at Orsova, near the Iron Gates. Formerly the whole of the range was within the Austro-Hungarian Empire, with the exception of the S. side of the southern flank, which was in Roumania. Now the northern division of the range forms the frontier between Poland on the N. and Czecho-Slovakia on the S., while the eastern and southern portions are entirely in Roumania. Much of the range is made up of thickly wooded eminences which hardly merit a more flattering name than hills. But there are three groups which rise to the dignity of mountains: the Tatra, in the N., whose highest peak is a little under 9000 ft. in height; the Pietrosu or Rodnaer group in the E., and the Negoi or Fogaras group in the S.

My brother and I decided to visit these three groups and

¹ See map at end of this number.

to begin in the S. We accordingly made our way to Buda-Pesth and thence across the Hungarian frontier at Lököshaza, to a junction station on the main line to Bucharest called Vintul de Jos (Alvincz), whence a four hours' journey in an unlighted local train brought us to Sibiu.

Sibiu is the Roumanian name for a town in Transylvania which is better known to Englishmen as Hermannstadt. The Hungarian name is Nagyszeben. These three names well illustrate a difficulty which confronts the traveller or mountaineer in Transylvania or, indeed, in the Carpathians generally. Every place of importance has at least three names, often bearing little or no visible resemblance to one another. A Hungarian map will generally give only Hungarian names and, similarly, German and Roumanian maps keep to their respective nomenclatures. In addition to this, the cartographer is apt to assign to places names unknown to the natives. In these circumstances an English traveller, who finds most of the names unpronounceable, will very likely add one other to the list—a nickname of his own.

Sibiu (Hermannstadt) is one of the seven fortified towns of Transylvania (Siebenbürgen) which was founded by Saxon colonists in the twelfth century. It is the headquarters of the active Siebenbürgische Karpathen-Verein. We sought out the secretary of this club, and obtained from him much useful information as to the present condition of the huts and of the best excursions in the Fogaras range. He was a Saxon and was deeply grieved that, though many of the club huts had been burnt down in the war, he could get no help whatever towards reconstruction from the Roumanian authorities—'not even a tree.'

Armed with the information with which he had supplied us and with the best maps obtainable we set out for Porumbacul de Jos (Unter-Porumbach) *en route* for the highest peaks in Transylvania. Between Porumbacul de Jos and the mountain path at the head of the valley are nine miles of dusty road. Enthusiasts have been known to walk this, but then enthusiasts have been known to walk from Aosta to Courmayeur to get in training for the Grandes Jorasses. We resolved to ride. Arrived at the station we found a group of idle villagers, clad in the normal costume of these districts, a long shirt or tunic of white canvas-like cloth, trousers of the same material, and a wide cloth belt. They wore queer stiff felt hats somewhat resembling much disfigured bowlers. Roumanian was the only language they knew. We could not find in our polyglot

phrase book the equivalent for a vehicle, but by a series of gesticulations, brandishing our maps, we made ourselves intelligible to one of the villagers who led us through the village to his home. Whether his neighbours were fond of borrowing or whether they have all things in common in these parts, we did not discover, but our guide called at one house to pick up a bridle and at another a harness, and finally led us through a small gateway into his yard where he showed us the vehicle. His house, like most others in the district, was low-built and had a large sloping roof so constructed to cope with the heavy rains.

Whilst he was busy putting the horses in harness, his wife was very diligent in showing us hospitality; she stuffed our pockets full of plums, and would have supplied us with bacon, eggs, cheese, and chickens and many other things besides, had we desired it. The vehicle being ready, we installed ourselves on the narrow plank which served as a seat and rode away through the village where scores of ducks and geese came out to greet us and quack *bon voyage* or hiss good riddance. Our little, lightly built fourwheeler had seemed to us a sorry object when we compared it with the sturdy agricultural waggon with which we were more familiar, but after half an hour of jolting over a long trail of débris which in Transylvania is called a road, we were full of admiration for its strength and resistance, but not for its resilience. When our vehicle was driven axle-deep in water across a series of torrents we had to share our excitement with our driver. Though we knew no Roumanian our conversation was successful, if a trifle one-sided. Take a pinch of Roumanian from a phrase book, mix with sufficient bad Italian and dog-Latin, add Imagination, Confidence and Gesticulation *ad libitum*, and you have a fair recipe for making yourself intelligible to the peasants of Roumania.

We passed through Porumbacul de Sos (Ober-Porumbach) and continued some distance further to a place called the 'Glassworks,' where the road ended. We then set out on the well-made path, eight miles long, which leads to the Robert Gutt Hut.

After half a mile in the valley the path forked and the true way led unexpectedly up a steep zigzag to the left. We had been warned of this and so lost no time in mistakes. Throughout the whole eight miles we were passing through thickly wooded forest, and every glimpse we had of the hills around showed still more forests. We passed several water-

falls, the crystal clearness of whose streams reminded us of the Cottian or Maritime Alps.

As we stepped into the courtyard of the Robert Gutt Hut we were delighted at the word of welcome emblazoned in golden letters above the doorway: HEIL. This we found was the favourite word of salutation amongst the German-speaking natives and visitors in this district. The hut was large and there was room enough for the two classes of mountain tourists, those who intended merely to admire the view from the hut, which indeed was very fine, and those who wished to climb. There was a strange mixture of nationalities at supper that night, and six languages could be heard: Roumanian, Magyar, German, Czech, French, and English; but everyone was friendly and all were united in the common love of the hills.

Out of respect for local feeling we could hardly have chosen for next day any other excursion than the Negoi, the highest mountain in Transylvania. There was a good path most of the way and the various landmarks were known by picturesque names, Chamois Rock, Dragon Slope, and Michel's Rest. After an hour and a half we came to a large flat rock labelled in red letters, after a fashion dear to German mountaineers: Frühstückplatz. In a little while we overtook a Roumanian family party who were climbing, according to their cherished custom, in bare feet. We thought it courteous to accompany them, but as they moved slowly and circumspectly, we amused ourselves by scaling by its various routes a fine rock pinnacle (rather smaller than the Napes Needle) known as Cleopatra. The Roumanian paterfamilias was most shocked that we should descend to rockclimbing, and shouted to us cynically 'Well! Is the view any better up there?' We assured him it was, but he refused to come and see.

On the summit of the Negoi, 8345 ft., we could look for miles across the countless winding valleys of Old Roumania towards the plains where flowed the Danube. The morning mists had already begun to gather about the highest ridges and as the various summits loomed out, now and then, these little mountains, but 8000 ft. high, seemed as great as the giants of the Alps; but the snow fields and the glaciers were lacking. The Roumanians discoursed with us for an hour or so on the state of their country and of Europe generally. The conversation was mostly in German, but occasionally some of them tried their skill in French and Italian. This showed that they had a working acquaintance with five languages, which was not

uncommon amongst the educated classes in these countries. The political problem which seemed to interest them most was that which confronted their anti-Semitic league.

We were rather amused at the description of the view from the Negoi in a German guide book—published at Hermannstadt in 1881 and written by a German, a Transylvanian patriot, who loved his native hills. 'Here we may recline on the narrow ridge scarce three yards wide, overgrown with moss and lichen, and enjoy the distant view across the mountains and valleys of Transylvania which fade away in the distance into the clouds, or look towards the S. far into Roumania where the countless ridges and valleys of our high mountain chain lead down to the plain in gentle slopes and broadening dales. But the finest picture of all is spread at our feet, the deep rocky basin bearing the awe-inspiring name of Sztrunga Drakului (Devil's Fold), where even the hot August sun is not strong enough to melt the winter snows on these northern precipices, and where full many a chamois may be seen sporting on a snowfield or browsing on the steep crags nearby. Further on one may discern two tarns, parted from each other by a mountain ridge, which in their rocky hollow look like two blue eyes peering into the clear heavens.'

We set out at once for this Devil's Fold, but I am sorry to say that we met neither the chamois nor the devil. Had we been able to reach the mountains further E. we might well have met both, for good chamois-hunting can still be had in these parts, so we were told, but there are no huts and food is scarce in the valleys. As has been said, 'No food in the rucksack and none in the inn, that is the devil!'

We did meet with good rock-climbing, however, on the S.E. face of the Negoi, where we enjoyed an hour or so of delightful scrambling. There one could find countless routes uncatalogued. Between the Caltunul and the Laitunul is a little pinnacle, apparently nameless, which attracted our attention. It was small but it satisfied us that there are some peaks in the range which a cow could not climb!

A sudden snowstorm curtailed our activities, and we made our way in the fog across the rocky basin at the E. of the Negoi to the Bergescharte pass, a narrow rift in the ridge descending from the Negoi, approached on either side by steep gullies. We had thus 'done' the show peak by the favourite circular route and were free to follow our own inclinations.

The next day we devoted to an exploration of the peaks W. of the Negoi. We found a tempting buttress between the

Moscavul and the Scara, and worked our way up it. Before we had finished our climb we were enveloped in the mist. It was our experience, which other climbers confirmed, that the morning mist arrives much earlier in the day in the Transylvanian Highlands than in the Alps, sometimes as early as 8 or 9 A.M. But slight breaks occurred fairly frequently and the mist generally dispersed in the late afternoon. During one of these intervals we caught a good glimpse of the mountains between us and the Roten-Turm Pass. This pass was formerly of great commercial importance as the trade road to the E., which avoided Serbia, passed over it, and at the end of the eighteenth century the despatches of the East India Company were brought by this route.

We ceased looking for climbs and wandered over the ridge westward. In many places we noticed traces of glacier action or *roches moutonnées*. After paying a visit to the Lacul Aurigului (Frecker See), a small tarn beneath the Ciortea (Hohe Scharte) on the Transylvanian side, we descended the military path from the Col. This Col had been passed by the Roumanians in their offensive in 1918, and we noticed many old trenches and other signs of the battle. After much argument we fancied we had reconstructed the strategic positions and understood the military tactics employed. Later in the afternoon, when the mist had quite cleared, we sat on a ridge above the Barcasiu Hut, the only other provisioned hut left in the district, and looked for miles across the Transylvanian plateau. We were again struck by the suddenness with which the mountains rise from the plains. In some parts the spurs on the northern side of the main range attain a height of 7000 ft. above the Transylvanian plain in a horizontal distance of only 7 miles.

We returned to the hut and discussed our plans. We should have liked to explore the whole range further eastward towards Brasov (Kronstadt); but the secretary of the Siebenbürgische Karpathen-Verein had told us that such an expedition would be a very lengthy one, as all the huts, except the Upper Stein Hut on the Bulea See, had been burnt down, that we should need two porters, and it would be advisable to take provisions for the whole time, as food was apt to be scarce at the stâne or shepherds' huts at the head of the valleys. We much regretted this as we had seen from pictures in the Year-Books of the S.K.V. that there were some fine rock peaks further E., particularly above the Podragu and Bulea Lakes. So we decided to cross the range into Old Roumania. No one could give us

any information. We were told that few people had ever made the passage, as before the war the Roumanian passports and customs regulations had rendered short visits by such routes extremely irksome. From a map in Baedeker (scale about 40 miles to the inch) we learnt that there was a railway station in one of the southern valleys. We made this our objective.

We followed the now familiar route of the Bergescharte and Portita, descended to the Caltun lake and chose our valley. After descending to the upper pastures we met with a little difficulty which I believe is common in the Pyrenees, that of gaining the bed of the valley. A Roumanian peasant boy whom we chanced to meet pointed out to us a track which led to a gap in the forest caused by a recent avalanche, and thus we attained to the level of the valley. But what valley? Our Austrian map which stopped a little beyond the old frontier suggested that it was the Valea Caprareata. 'Perhaps we are guilty goats to be in it,' my brother irreverently remarked!

In an account of the Eastern Carpathians, by Sir Leslie Stephen, published in the third volume of the *ALPINE JOURNAL*, the following passage appears. (An energetic bookseller named Krabs told us that) "The principal danger to be anticipated was from the attacks of sheep-dogs. These animals scent the traveller from an incredible distance, and rushing upon him with appalling cries, tear him, or at least his clothes, in pieces. My own experience went to show that Transylvanian sheep-dogs are the veriest curs that ever ran away from a fictitious stone, but as such ferocious beings may possibly exist somewhere, I will communicate to the Club the remedy he described as infallible. 'No one should venture,' he said, 'upon these mountains without a good supply of fireworks.'" We were familiar with the type of cur that runs away from a fictitious stone, and so at first we were indifferent when on our emerging from the wood, three wolf-like creatures rushed at us, barking furiously. But stones only made them more ferocious than ever, and we were some minutes fighting them, before they were beaten off by a peasant who could throw larger boulders with greater accuracy than we had done. My brother and I agreed that we would not visit these parts again without taking some fireworks or other more efficacious deterrent against the wolfish creatures which, in Munthenia, serve as sheep-dogs.

The wealth of foliage, the luxuriance of vegetation, and the brilliance of the sunlight in this valley were more than Italian,

they were almost tropical. At first the only trees were pines, and then there seemed to be a sharp line beyond which only beech trees were growing. This transition occurred very suddenly and we noticed it several times. Lower down the valley, pines and beech grew side by side. We soon came to a little stâna where we called to discover, if possible, the name of our valley, and what was the direction of Arges. The peasant at first insisted that we must go back to the Negoi, which as good Austrians we must surely wish to climb, but when we asked for Bucharest he pointed to a path leading down the valley, and congratulated us on our discernment in coming to visit his lovely Capital. Speaking our pseudo-Italo-Roumanian we got on quite well with the conversation. When we announced that we were not Austrians but English, a small crowd appeared from nowhere in particular, and examined us closely as though we had been members of a strange tribe from some South Sea island. They then showed us the customary hospitality and gave us the best drink they had—sour milk in which lumps of cheese were floating. We drank it manfully, though slowly, thinking that no doubt it was much better than Tibetan tea.

The path on which we then set out appeared to have been a military route constructed during the war, for it had been carefully built up, so that artillery could be drawn over it. A mark on a tree showed us that it was 27 kilometres to the first large village, which turned out to be our desired goal, Cumpana d'Arges. The valley is the centre of a large timber industry, and we found the methods by which the timber is taken down towards the plain very interesting. The tree trunks are first sent down steep gullies, and then put into wooden troughs, down which they slide to the river. As the river is not swift or deep enough to carry the timber of its own accord, dams are constructed at intervals along its course. These are opened and closed alternately, so that the timber is carried down stream by the artificial flooding which results.

Though the path was generally very good, there were places in which it had been completely covered by landslides, and many of the bridges had been washed away. One of the bridges consisted of three unsteady tree trunks (some 60 ft. above the rushing water). We passed several hamlets where the dogs were of the currish and not wolfish variety, and at length reached Cumpana d'Arges, the terminus of a little railway built for the development of the timber industry. The 7 o'clock train, *i.e.* one truck without an engine, was full

of people and left without us. After an eventful evening during which we were arrested by the village policeman as German or Russian spies, and released again, and then put under the charge of a workman who spoke Italian, we took the 1 A.M. train to Arges, and proceeded thence to Bucharest.

Our next objective, the Pietrosu, the highest point of the Eastern Carpathians, could be approached by two routes, but as one of them, that through Transylvania, would have necessitated three days' travelling, owing to the slowness of the trains, we chose the alternative, and travelled N. through the plains of Moldavia, going by the Warsaw express as far as Dermanesti, and then by a local line to Jacobeni. Jacobeni, like most of the other villages we saw in Bukovina, seemed poorer and filthier than the villages of Southern Transylvania. This corner of Bukovina had suffered a great deal during the war. First the Russians had entered, then the Austrians drove out the Russians, and finally the Roumanians captured the district from the Austrians. We learnt much of the recent history of the valley from a villager who began his narrative thus: 'Gentlemen, I am Friedrich Suchard von Jacobeni, I have six sons and six daughters.' We bargained with a Jewish driver to take us to Cârlibaba, a large village on the south-eastern side of the Stiol Pass. After taking us a couple of miles his only thought was that he might induce us to hire his vehicle to cross the pass next day to Borsa. When we refused to consider the proposal, he leapt out of the cart and went to join the driver of the vehicle in front, possibly to warn him not to cut prices. The horses, left to themselves, seemed to know how to avoid accidents by about half an inch. The inn at Cârlibaba was fairly comfortable, being kept by one Ann Müller, of German origin. She could give us no food; to-morrow's bread was being baked, but there was none for to-day. We went out shopping for our usual fare—bread, cheese, and pickled gurkin. The inhabitants of these parts make their chief meal in the middle of the day, and the traveller arriving very hungry at a village in the evening may find that there is no food to be had.

Of our ascent of the Pietrosu, I have little to say, for we failed. After pushing rapidly along the ridge from the Stiol Pass we at length reached a peak adjacent to the Pietrosu. It would have required another hour or more to gain its summit, which was surrounded by thick forests. We could not discern with our glasses the least semblance of a path leading into the forest, and as we knew that the descent without

one might take hours, if not days, we thought it prudent to retire. During the descent from the Stiol Pass we were joined by two German-speaking peasant girls, who showed us the best short cuts through the forests, and accompanied us some miles towards Prislop and Borsa. These two villages of Máramaros were just as dilapidated as those of Bukovina, and we were not sorry to leave them. We hurried away to Sigetul Marmatiei, formerly Máramarossziget, where, after passing through the Roumanian and Czech passport and customs formalities, we joined a Czech train which would take us to the Tatra. It was like passing suddenly into Switzerland from a most backward valley in N. Italy, only the contrast was even more striking. The Czech train was punctual, and we arrived the same evening at Poprad, beneath the Tatra.

The Chamonix of the Tatra is Stary Smokovec (Alt Schmecks), $8\frac{1}{2}$ miles from Poprad. In the electric tram which took us thither, we met a man of commerce who advised us quite seriously to visit Russia, where living was so cheap! He then muttered "Tatra, Fatra, or Matra," I suppose Tatra is your mark? It appeared that Fatra and Matra were two smaller groups which rise to a height of about 5000 and 3000 ft. respectively. Apparently 'Tatra, Fatra, and Matra' was a sort of incantation of his like 'Soldier, Sailor, Tinker, Tailor,' and he fell to assessing everyone in the train according to his estimation of their climbing ability. He left us at Dolny Smokovec remarking 'Matra's enough for me.'

It was the middle of August and there was no accommodation of any kind to be had at Stary Smokovec. Good maps were obtainable here, and we procured a copy of Dr. G. von Komarnicki's excellent climbers' guide-book to the Tatra. We took the funicular to the Hrebienok or Kämmschen, where the hotels were also full, but we were told that there would probably be room for us at the Téry Club Hut, at which provisions were obtainable. This mid-August overcrowding made us wish ourselves back in Roumania, for there was an oppressive air of artificiality about Stary Smokovec. It seemed to us that the majority of visitors in Transylvania had been inspired with the love of the hills, but in Stary Smokovec merely with a love of fashion. We made our way hopefully up the Little Kohlbach Valley, and arrived at the hut just in time to book the last two beds. The hut is delightfully situated by the Five Lakes, beneath a chain of tempting rock peaks.

It was natural that we should choose for our first ascent

the Lomnický Stit (Lomnitzer Spitze, 8640 ft.) which was till quite recently regarded as the highest peak in the Tatra, and seems to have been ascended by a local schoolmaster in 1615. It is now settled that Gerlach (Gerlsdorfer Spitze) is some 90 ft. higher than the Lomnický. The ordinary and easiest route is that known as 'Moses Spring' route, but from the Téry hut the 'Jordan Way' is more often followed. A pretty story is told as to the origin of the name, Moses Spring. It has been recorded by Lord Bryce, and I will quote it in his words.

'The Vice-President and another member of the Karpathen Verein were, with their guides, conducting some members of the Vienna Alpine Club to the top of the Lomnitzer. These latter gentlemen, as coming from the loftier Austrian Alps, had been a little contemptuous towards the less elevated Tatra, and in fact pooh-poohed the Lomnitzer. However, the stiff climb up out of the Kohlbach dale tried them so severely that on gaining the crest they declared they could go no further without something to slake their thirst. This the Vice-President promised them at a stream a little higher up. Unhappily when they reached the spot, no water was to be seen. The strangers then began to reproach the Herr Major. But he was equal to the occasion. "Let us invoke Moses," said he, "who could bring water from the stony rock, and give him ten minutes in which to do his work." Moses was accordingly invoked amid the jeers of the Viennese. Sure enough, after ten minutes, water began to trickle down the rocks, till before long a streamlet was running at which all could drink. The Major had noticed that the sun, in mounting above the rocks, was just striking a snow-bed which lay hidden in a cleft some yards higher up, and he knew that when the heat had had time to play upon it water would presently appear. He was therefore prepared to stake his reputation as an officer and mountaineer upon the event. In memory whereof the spot is called by the guides and others the Moses Spring even unto this day.'

We followed the Jordan Way, which was fairly easy to find. It led diagonally up the broken rocks beneath the Durný (Schwalbenturm) to a Col where a short traverse is made on the northern side of the ridge. The final climb might have been interesting but was spoilt by iron stanchions, chains, and similar artificial and satanic devices. The view from the summit should be very extensive, but we only caught glimpses of it through the mist. There was a curious metal cylinder

fixed near the summit. We unscrewed its cap and found it was full of visiting cards and other records of successful ascents.

Our climbers' guide mentioned a variation which would avoid the chains, and on the descent to the Col we took this alternative route, which was much pleasanter though not difficult. It was still early in the day and we looked about for further climbing. As the mists kept circling around us, we were not inclined to attempt any fanciful and complicated route of descent, so we started to traverse the ridge to the north-west. We surmised that it should be fairly easy to get down from one or other of the Cols in this direction. We were very careful never to leave the ridge, making many conscience climbs which could have been avoided, and so had some five hours of excellent scrambling before we reached the Téryjoch. We crossed about 9 or 10 named peaks.

On the Katzenturm we were troubled by the mist and could not find the narrow chimney which is the key to the route to the Joch. However we made a way down the northern side within about 80 ft. of the gully below the pass. As the rocks were very steep we thought it prudent to use a *corde de rappel*. As I was in the middle of the descent, the mist suddenly cleared, and a Polish party who were ascending the gully, tugging wildly at the chains, were so startled at seeing us, floating as it were, above their heads, that two of them fell right off their ample stances, and slid down the gulley till they got entangled in the chains. For once our cord did not jam and so we were soon running down the long scree slopes towards the hut.

At supper that evening the climbers were divided into two schools, partizans respectively of Grat-Kletterei or Wand-Kletterei, the Ridge Climbers or Face Climbers. The face climbers considered themselves far superior to the others. They lauded scarpetti, and mocked nailed boots. As we watched the champions of Wand-Kletterei next day we marvelled at the eagerness with which they traversed away from the steep faces and joined the ridges.

After a morning devoted to photography we descended to the Kämmschen, and took the path which skirts the Slavkovsky Stit (Schlagendorfer Spitze) to the Schliesky Dom or Schlesierhaus, a glorified hut belonging to the Czech Tourist Club. It was very crowded and the greater proportion of the visitors were not mountaineers. The manners of some of the Czechs and Poles were extraordinary. They would emphasise their arguments by throwing their knives and forks violently

on to the table and spitting. Compared with the raucous shouting of these people an animated conversation of Frenchmen or Italians would be but a tuneful whisper. But one must make allowances for the fact that it was a mid-August crowd.

We had ascended the Lomnický by the ordinary way and descended by a ridge route, so we decided to reverse the process of Gerlach. Obedient to our tourist map we followed the green and red marks up the Velická valley, a rugged glen in which we heard several marmots, passing the Dlhe Pleso to the Polsky Hreben (Polnischer Kamm) on the Frontier between Czecho-Slovakia and Poland.

An agreeable five hours of ridge scrambling from this pass brought us to the summit of Gerlach, 8737 ft. Sitting beneath the iron standard were two Frenchmen wearing the familiar badge, and we saluted them as colleagues of the French Alpine Club. They had come up by the ordinary route in the care of a Zurbriggen from Saas Fee and a local guide.

The ordinary route, blazed with its trail of green, seemed to us ridiculously easy at first, but later on, when a thick mist and heavy snowstorm came upon us, we were not too proud to look out for the marks. When we reached the iron staircase at the base of the mountain, known as Gerlsdorfer Probe, the ground was covered with three or four inches of snow. This was the beginning of at least a week of rain.

After waiting a day for the weather to clear we made our way round to the third main climbing centre of the Tatra, the hotel by the Popradske Pleso or Popper See. The two popular tourist excursions generally made from this Hotel are the ascent of the Rysy (Meeraugenspitze), the Rigi of the Tatra, and the pass to the Polish Five Lakes. There are 112 lakes in the Tatra, called locally 'Eyes of the Sea,' from a strange belief held by the natives that they had some subterranean connexion with the sea, and that the ripples which can be seen on the surface of the waters on calm windless days were caused by storms on the Baltic.

Thick mist and incessant rain rendered serious climbing impossible, and prevented our seeing even the tourists' 'sights.' As the bad weather showed no signs of abating we departed southwards to a land of sunlight.

What were our impressions of the Carpathians? With their entire absence of snow and ice they are, in the summer at least, no serious rival of the Alps. A devoted lover of the Dolomites might find a second climbing paradise in the Tatra. But the Southern Carpathians have a charm all their own. There,

life is more primitive, and the mountains more unspoilt, than anywhere in the Alps. There, at last, one may escape from the August crowd and enjoy the mountain undisturbed, and one's petty annoyance at the dirt and discomfort of the place will be more than appeased by the good temper and cheery disposition of the Roumanian peasant.

SOME CLIMBS IN THE BREGAGLIA AND THE DOLOMITES.

By N. S. FINZI.

(Read before the Alpine Club, May 5, 1925.)

MY first visit to the Bregaglia was in 1921. I arrived at Maloja *hors de combat* owing to some bad food. However, I managed, after a day's rest, to struggle up to the Forno hut, and on the succeeding day, with my sister and Dr Dent's party, up the Monte del Forno. One gets a fine view from this peak, but what struck one most, on topping a curve in the glacier *en route* for the hut, was the magnificent view of the mountains at the head of the Forno glacier. Speaking of this in the evening, I learned to my surprise that the splendid needle known as Cleopatra's Needle or the Ago del Torrone had never been climbed: attempted—yes, many times, but never climbed.

I had brought two Valais guides with me, Josef Biner and his nephew Adolf Schaller. At the top of the Monte del Forno some other guides pointed out several things to them, including the route up the Cima del Largo which I had expressed the intention of climbing. A couple of days later I started from Maloja to do it. One advantage of the Bregaglia climbs is that many of them may be climbed direct from the hotel without over-exertion or a very early start. We reached the *Einstieg* and started, quite correctly, to traverse to the left, but, although I urged that, later, we ought to bend back to the right, the guides would hear nothing of this, pushed on ahead, and we only all came together again at a pass which I said was between the Piz Bacun and the Piz Casnil, whereas they declared it to be between the Largo and the Bacun. 'Look in the book' they said 'and tell us which is the way.' I answered—'If this is the Cima del Largo you must follow the ridge, but there is nothing corresponding to the description of it here.'

At any rate we decided to follow the ridge. It was evident that it was not the ordinary route from the amount of small, loose stones, and we had a very pleasant little climb, portions of which were not quite easy. We rejoined the route up the S.E. face close to the summit. Here the discussion as to which peak we had done recommenced, but it ceased with the discovery of the name of the peak, Pizzo Bacone, in the summit-book. The guides had been misled by the local men, and subsequently learned that ours was a new route, namely, the S. ridge of the Piz Bacun. We returned by the chimney and gully in the S.E. face.

We next went to the Albigna hut and climbed the Ago di Sciora, being led by Christian Klucker, then 70 years old, who had less difficulty with it than I had. The next day we went over the Zocca Pass, and I got this photograph of the Ago but left half my lens on the pass. We descended to Masino Bagni, a delightful spot, and from here climbed the Badile by the ordinary route, which is quite easy, and then the Disgrazia by the via Barone, also not difficult. I cannot recommend this latter climb, as the Cecilia hut has been burgled so often that nothing is kept there: all blankets have to be carried up from San Martino. There is also only a very sketchy supply of cooking utensils and I think one plate, one knife, and two spoons and three forks. We returned to Masino Bagni and next day crossed over the Zocca pass again to get back to clean clothes and—sulphur ointment, an item of equipment that should never be omitted in Italy! We were extraordinarily lucky in that Josef Biner's sharp eyes found my half lens on the top of the pass under some stones. We then went back to Maloja and climbed the Piz Lagrev by the route described by Dr. Wilson in the 'A.J.' We then climbed the real Cima del Largo, intending the next day to go and have a look at Cleopatra's Needle, but in taking off some new crampons which I had been trying, I fell and injured my hand enough to prevent climbing.

The next year we had started in the Mont Blanc range, but got bad weather, and we thought it wouldn't be a bad plan to go to the Bregaglia again. My friend Rudolf was with me, and we had now as guides Peter Almer of Grindelwald and Franz-Josef Biner of St. Niklaus, whose names I had got from Captain Farrar. We travelled *via* Milan, where we found that they had just finished a general strike. Anxious inquiries about trains elicited the fact that they had run well all through the strike; but its cessation caused us to be 8 hours late in a run

of about 60 miles, and to miss a day. When we arrived we took provisions and went up to the Forno hut.

First we climbed the Torrone Orientale. The next day we did the S. ridge of the Bacun both up and down, and the following day the weather enforced rest.

Our next climb was the Cima di Spluga and the Cima del Largo, and we there had a most terrible experience. The weather was rough and windy, but we had done the Largo and returned to the ridge at the spot where one removes the scarpetti. We had each got on about one boot and one shoe when amid thunder and lightning it started to hail peas, then beans. This was unpleasant, but when the stones reached the size of well-nourished damsons, we feared our last hour had arrived. They came with terrific force and, though we hid our faces, our arms and bodies were battered and bruised. Had we been on the difficult part of the climb, I should not be reading this paper now. I have no doubt that the two Italians who were killed on the Badile that same day met this hailstorm.

The next day being a rest day we strolled up the Monte Forno, and the day after, the weather prevented an excursion. Then we decided to have a look at Cleopatra's Needle. Peter Almer was not well, so we went with Franz. We crossed the glacier coming from the Colle del Torrone and its bergschrund to the rocks on its W. bank, and from here followed rock terraces up to the col between the big gendarme, which resembled a hen on its nest, and the Torrone Centrale. We had hoped to find an easy way round this gendarme, but it is a thin plate of rock, and the choice lay between climbing over it, which, if possible, would be extremely difficult, traversing under it, also very difficult, or descending a long way and then mounting again. There was no time left for this last, so we returned. During our stay at the Forno hut we had met Herr Zürcher with a friend of his and the Engadine guide Risch. They were returning from the direction of the Torrone group, and they had with them enormous masses of rope. We immediately suspected an attempt on 'our' needle, and on questions being asked we were told they had been trying 'variations on the Torrone Orientale.' Subsequently we have discovered that they had tried shooting a rope over the needle by an arrangement of which a pistol formed part. Thank goodness, it wasn't climbed by this method.

Rudolf then had to go home, but I decided to have another look at the needle with the guides. This time, after mounting the rocks on the W. bank of the Torrone glacier for some

distance, we started across the glacier. The rocks are horribly rotten, but the ice traverse is as sensational as anything I have ever seen. The ice is at just about as steep an angle as possible, and therefore necessitated large steps right across the face of the glacier, but Franz cut all the steps in $1\frac{1}{4}$ hours, more than 80 steps. We arrived at the col only to be met by a severe storm. Franz prospected a bit, but discovered nothing. Unfortunately, on the return, the rope loosed a stone on to Almer's forearm, inflicting rather a deep cut which subsequently suppurated and placed him *hors de combat* for some weeks.

A few days later we decided on another attempt and got an Engadine man as second guide. This time I insisted that we should get to the peak by going over the Torrone Orientale or as far below the summit as we could. The glacier was troublesome and the second guide a very inefficient step-cutter, so it took us over 6 hours to reach the Colle del Torrone. After a snack of food the struggle commenced, and after a tough fight with the mountain, which lasted 2 hours, Franz succeeded, by standing on the second guide's head, in hauling himself above the overhang. The only hold is one hand-hold and very slight knee-friction. He then progressed to within 50 feet of the top, but here found an overhang under which he must traverse. I understand he told the other guide to come on to the peak, but the latter refused, and as I knew I should not be good enough to hold him in case of accident, I did not offer. At this time the mountain was enveloped in cloud, and I made a number of attempts to photograph Franz from the slopes of the Torrone Orientale. I was just giving it up when the mist cleared for a moment. I got the camera out again and was just in time to get a photograph.

It was obvious now that we were almost certain to do the peak, given a good second man. We decided, therefore, to have another try the next year, and it had this advantage, that Rudolf would be with us again.

In 1923 we met Franz at Milan and proceeded at once to Campitello in the Dolomites for a week's intensive training. We didn't know that a new road had been made up to the Sella hut, or we should have taken the car right up there. The day after we arrived we went up to the Sella hut (now Rifugia Sella) and scrambled about on the Sella towers without accomplishing anything but some difficult rock-climbing.

The next day we decided to do the Fünffingerspitze and set out in due course. Our united knowledge of German however failed to make out, from Purtscheller and Hess, which was the

route, and Franz started straight up the gully leading to the Daumenscharte. The rock was very loose and we dislodged a good deal. The stones were flying merrily when we were hailed by another party. They asked if we were in the Schmittkamin. Franz replied that he didn't know but that we would stop if the others wanted either to come up or to cross the gully. We waited a long time but apparently they wouldn't trust us and went away. We continued up the gully, which gradually became difficult, until we arrived at a ledge on the true left wall of the gully with a sheer wall of wet black rock above it. At this stage Franz had no kletterschuhe, but he managed to tackle this exceedingly difficult bit with his nailed boots. It only just went, and he has told me since that it was a very near thing; with kletterschuhe it is very difficult, but with nailed boots almost impossible. At the top of the wall we found an 'Abseil-ring.' Soon we reached easier rock and then rejoined the ordinary route to the Scharte. Franz didn't think the wall on our left could be the right way to proceed and so decided to try the Daum direct, but we didn't get very far on that, so we traversed round it, eventually reaching a spiral chimney on the S. side. This got more and more difficult, and as it was our first day I eventually called a halt and insisted on returning. We found the ordinary route back and it was quite easy. Later we discovered that the Daumenscharte gully had been descended before but never ascended (unless it has been done since 1913).

We got into a thunderstorm on our return to Campitello and were neither of us well the next day, whether as the result of over-fatigue or something we had eaten, I don't know. Rudolf was worse than myself and had to rest for two days. Meanwhile I proceeded to do the Zahnkofel and then the Schmittkamin, both from Campitello direct. This latter we quitted to our left, but I think above the point at which the usual route leaves it. The whole 60 ft. of rope was out when Franz called me to follow. 'Sind Sie sicher?' I asked, 'ja' he answered in a tone which assured me that he wasn't. The first step was extremely difficult, and then there was a long exposed oblique traverse with no resting places, the pitch being about 70 ft. At the top we rejoined the ordinary route, stepped across the kamin again, and all was plain sailing. We returned by the ordinary route to find Rudolf awaiting us at the Sella hut. The next day Franz took him up the Grohmannspitze while I had a rest day. On the following day, Sunday, Rudolf and I had a little guideless climbing with Smythe, but I hadn't enough confidence in my powers of leading to complete the

third Sellaturn. We returned to Campitello, and then made arrangements for the Marmolata Südwand.

We started on the Monday for the Contrinhaus, and got a beautiful sunset which we photographed, and so were late for dinner. On the Tuesday we started at 3 A.M. and reached the Ombretta Pass in good time to see a most wonderful sunrise. At the *Einstieg* there are three chimneys and one should take the middle one, but Franz didn't like the look of it and so we took the left-hand one, meaning to traverse back into the other. For some distance there was no chance of a traverse, and when we eventually traversed a very exposed place to the right we still didn't reach anything that corresponded to the description of the ordinary route, so we eventually decided to proceed and make our own route. We climbed upwards and to the left, reaching a chimney of which one wall overhung in most places, forming, with the smooth flat slab of the other wall, a place in which one could get a series of jam-holds. In no place could we all three come together; in no place could we move more than one at a time, and at no single spot before the first terrace was reached did we find any easy rock. Eventually we arrived at the first terrace exhausted and parched with thirst, 5 hours after leaving the *Einstieg*. Rudolf had carried the sack the whole way, but we hadn't been able to get near enough together for him to get it off and get at the water bottles. From the first terrace we adopted the ordinary route, but we were all tired and took a long time. We were a little bit afraid that the porter would have departed and taken our boots down with him, but we found them safely on the summit, where we arrived nearly 11 hours after we left the *Einstieg*. We returned to the Contrinhaus by the W. arête and arrived there at dusk. A great noise burst on our ears as we opened the door, and we discovered a sectional gathering of the C.A.I. A gentle word to the proprietor enabled us to finish our dinner and depart before the gathering closed. We took a short cut under direction of the local porter, but I don't think he had ever tried it himself before. We arrived at Campitello at midnight and much regretted that we had ordered a car for 5 the next morning. After sleeping for one minute we were awakened for breakfast. To our disgust it was only 3.40, and we knew we daren't sleep another minute or we should have been late for the car. The drive was tedious but amusing. The so-called car lost bits of itself as we proceeded, and we arrived at Glurns at midday. After lunch the driver proceeded to point out so many fractures in the chassis that we decided to risk no further travel in his car,

and got on to Sta. Maria by the Post. The fireworks of the evening (August 1) were not observed by us that night, and we crossed the Ofen pass the next day, arriving at Maloja in the evening. Here we found our porter, Roman Lager, and after some delay started straight away for the Forno hut. We arrived a little before 11 o'clock, much to the disgust of the occupants.

The next morning, August 3, we started soon after dawn, and this time the choice of route was left to me, so we went over the Torrone Orientale, crossing well below the summit. We had just arrived at the foot of this peak when the weather, which had been threatening, took a turn for the worse, and after waiting for the best part of an hour we decided that Cleopatra's Needle must wait. We returned, arriving at the hut wet through. The following day, August 4, we started again at 5.42. Using our ice steps of the previous day, we climbed rapidly and reached the Colle del Torrone in 4½ hours. After an hour's rest the assault began on the needle. This has been described in the *ALPINE JOURNAL*, xxxvi. 60 *seq.* No artificial aids to climbing were used. Pitons were used only for holding a security belay or for double-roping. Half an hour, mostly occupied in these preparations, saw Franz on the peak at his first attempt, and the others were hauled up one after the other. After the first step the climbing still did not seem to Rudolf and myself at all easy, and there was a tricky place where in crossing a wide open gully the only way was to lean right out on a handhold; this had had enough with the other three, and it parted from the parent rock with me, the event being accompanied by the usual horrid sulphurous smell. The only harm done was a shock to the nerves of the others, as I instinctively landed with my feet to the rock. A little more difficult rock brought us to a small ledge, above which are a few yards of quite easy climbing. Then came the real excitement. Franz climbed up a crack to the top edge of a slab, the foothold being about an inch thick. Roman followed and stood by his side while he drove in a piton through which the rope was threaded. We were on the N. face of the peak and he then traversed on to the W. face to avoid the overhang. As he found this 'sehr schwer,' I can only imagine it was of the most intense difficulty. We walked up over the double rope. The overhang is so great that with my feet on the face beneath it my stomach was still touching the rock of the overhang. We crowned the peak with Lager's cap, a bright green creation.

To descend, we double-roped to the easy rocks referred to and

took off the rope, and we then went down to the little ledge which just held three comfortably. Another double-roping brought us a little below the point where I landed in my fall, and the third took us on to the top of the glacier.

We returned well pleased with the conquest of a peak where so many good men have failed. All we ask of others who climb this wonderful little needle is that they should not spoil it. I couldn't lead it myself, and anyone who can must be regarded as a first-class climber.

THE HIGH TATRA.¹

By HUGH ROGER-SMITH.

I FEEL diffident about writing a paper on our expedition in 1924 as, from a climbing point of view, it was a fiasco owing to the weather, but our excursions into the valleys and over the passes enabled us to form a good idea of the climbing possibilities of the district. This paper, therefore, may be of use by affording some hints for explorations of a mountain range that seems to have been very much neglected by members of the Club, for, save a description of another disastrous season by Mr. Charles Candler in vol. xxx. 11, I can find no mention of the High Tatra in the JOURNAL. Lord Bryce visited the High Tatra in 1878, and a charming account of his stay there appeared in his 'Memories of Travel'; in fact, it was this book that fired me with a desire to explore the district.

The High Tatra is the name applied to a small group of mountains that forms part of the range of the Carpathians. The Carpathian mountains for the most part consist of low pine-clad hills rarely more than 3000 or 4000 ft. above sea level, and in the middle of this range the Tatra group shoots up to between 8000 and 9000 ft. It consists, for the most part, of extremely steep and rugged granite crags reft into fantastic shapes, with steep precipices falling to the valleys below, and lies between Czecho-Slovakia and Poland, the actual boundary passing through the range. It is barely 20 miles in length and some 10 to 12 miles in depth, so that an active walker can explore the district fairly thoroughly in three weeks or a month.

¹ See map at end of this number.

Prague—reached *via* Flushing and Dresden in about 30 hours—is a fascinating city and deserves a day or two for seeing its beauties. Anyone visiting Prague for the first time should read 'From a Terrace in Prague,' by Lieut.-Colonel B. C. Baker ; and another excellent book is Major C. J. C. Street's 'East of Prague,' which gives a good description of the country but says nothing about the High Tatra, while a description of the Tatra appeared in the *R.G.S.J.* for September 1923, and is well worth studying.

One can take the night train from Prague with comfortable sleepers and arrive at Poprad-Felka about 9 A.M. next morning, where an electric train takes one to Stary-Smokevec (German Schmecks), a charming village at the very foot of the mountains. Here there are two hotels and quite first-class accommodation, but in July and August it is wise to secure rooms beforehand by writing to the Bad Direction, Stary-Smokevec.

We had telegraphed for rooms from Prague, but on arrival we found the village quite full, so we tried the Kohlbach hotel, reached from Stary-Smokevec by a cable railway in 20 minutes. Here we found exactly what we wanted, a small mountain inn right up amongst the hills, very reasonable and with the most perfect cooking ; and although the sanitary arrangements were far from perfect, and the only bathroom 5 minutes' walk from the hotel, we stayed here very happily for three weeks. It is an ideal position for exploring the valleys and mountains. German was understood and spoken almost everywhere, the people were very friendly, and we received nothing but kindness and civility wherever we went.

For active mountaineers there is any amount of work to be done amongst the Tatra mountains, the climbs ranging from easy scrambles to exceptionally difficult rock problems. There are no glaciers and practically no snow in summer.

There are three centres from which the various districts can be explored. On the W. is Czorbaer See, the largest lake on the S. side of the Tatra, and here are several hotels ; in the centre is Stary-Smokevec, and to the E., Tatra Lomnitz. These three villages are connected by a fine road and an electric railway. In connexion with each of these main centres are several alpine huts where one can sleep, and in most of which good food can be obtained. Thus about 1½ hours from the Czorbaer See is the Popper See hut on the banks of the lake. This is a small, comfortable hotel from which beautiful Mengsdorfertal and the Trummertal can be explored. Then midway between Czorbaer and Schmecks in the Felka Tal is the large and

comfortable Schlesier hut, from which the Gerlsdorfer Spitze and the surrounding peaks can be readily tackled. Above Schnecks is the Kohlbach hotel already mentioned; at the junction of the Gross and Klein Täler is the Gemse hotel; near the head of the Gross Kohlbach Tal is a small hut in bad condition, where one could spend a night at a pinch, and at the head of the Klein Kohlbach is the fine Terry hut, a good centre for exploring the Lomnitz, Eisthaler Spitze and the mountains of this group. About $2\frac{1}{2}$ hours' walk from Tatra Lomnitz is the Friedrich hut on the banks of the Grüner See, where you get excellent food, and which forms a very good starting-point for exploring the Papyrus Täler and surrounding peaks. On the N. or Polish side there are two good roomy huts, the Roztoka hut and the Fischsee hut, and three other very small huts with five or six beds apiece.

Guides are to be found at each of the centres, and are controlled by the Czecho-Slovakian Alpine Club, and we heard well of them, but the climbs we were able to accomplish were guideless. The weather in August 1924 was hopeless in the Tatra, constant heavy rains making for days together any serious expedition out of the question. The High Tatra rise on the S. side very abruptly out of the plains, and, seen from these plains, give the impression of a huge rock wall. The warm S. winds, laden with moisture from the plains, strike this rocky barrier and condense in mist. Day after day it would start clear and bright at 5 A.M.; by 6 A.M. wisps of mist would appear, and by 7 A.M. all the upper regions were enveloped in a dense fog, and it usually began to rain. Time after time we would start at 5 or 5.30 A.M. for some peak—for a good many interesting climbs could be easily done in a day from our hotel—only at 8 or 9 A.M. to be driven back by a perfectly bewildering mist.

Our first expedition was the Schlagendorfer Spitze, 7972 ft., rising abruptly above the Kohlbach hotel, nothing, really, but a pretty fatiguing walk; in fact, it looked so simple that we—the late Dr. R. G. Rows, Mr. Reginald Graham and the writer—made a bee-line for the apparent summit regardless of the warning given by Lord Bryce about the horrors of the Krummholz zone. The bases of all these Tatra mountains are densely covered with fir trees, mostly spruce firs, and above these is invariably found a zone some half-mile deep of dwarf pine trees, the *Pinus mughus*, and known locally as 'Krummholz.' Lord Bryce calls it 'this hateful little tree,' and with reason. Not more than 8 or 10 ft. high, with

interlacing straggling branches, too strong to bend, too low to get under, and very difficult to climb over, they form an almost impenetrable barrier. Into this pine wall we stumbled on this our first ascent, and it took us $1\frac{1}{2}$ hours of really hard work to force our way through this half-mile of wood. On emerging from it we were all suffering severely in our tempers and our garments. Nothing would induce us to face untracked Krummholz again!

The Schlagendorfer Spitze was very deceptive. Time after time we thought we had reached the top, only to find a higher summit beyond. It was exceedingly hot, and our first expedition, undertaken for training and to get the lie of the land, so that a prolonged lunch rest excuses the absurd time of 6 hours to the summit, by which time mists were down and we saw absolutely nothing; it should be done easily in 4 hours.

Another excellent training climb is the Kleine Vysoke, which rises to the E. of the Polnischer Kamm. There is an easy path from the Kohlbach Hotel, skirting the S. flank of the Schlagendorfer Spitze, leading to the Schlesierhaus, a big and well-found hut in the Felkatal on the S. bank of the pretty Felka lake, about $1\frac{1}{2}$ to $1\frac{3}{4}$ hours from the hotel. From here the track ascends the Felka Valley, at first through the 'Blumengarten'—which even in August was indeed a garden of flowers and a wonderful sight, though not producing anything startling from a botanical point of view—and so by a steep but easy path to the crest of the ridge, Polnischer Kamm, 7169 ft.; then, turning E., the crest is followed to the top of the Kleine Vysoke, 7894 ft., a quite sporting little rock scramble of 700 ft. The day was perfect, and at last we got a magnificent view of practically the whole of the High Tatra from Krivan on the extreme W. to the Lomnitze Spitze in the E. We were standing at the apex of a circle of peaks and ridges. Continuing the arête S.E. was the rocky Warze, and beyond this the imposing mass of the Schlagendorfer Spitze. In the other direction the ridge drops down to the Polnischer Kamm and continues W. and then turns S. The sharp arête is punctuated by a series of huge gendarmes and culminates in the Gerlsdorfer Spitze, 8654 ft., the highest point of the Tatra. The ascent of the Gerlsdorfer Spitze along this arête is long, but by far the most sporting of the various ways of reaching the summit. Messrs. V. T. and L. A. Ellwood did this climb and, I understand, found it very interesting. We made two attempts on the Gerlsdorfer Spitze by the ordinary route from the Schlesierhaus, but on both occasions were defeated by weather conditions. I fancy the

present route must be much the same as that described by Lord Bryce, but now the only really difficult part of the ascent, up a steep and smooth slab some 45 ft. high, has been 'improved' by a whole series of stanchions and chains, but without them it must have been a very stiff proposition. Above this, as far as we were able to force our way in the blinding mist, there was nothing in the way of difficulty and we did not find it necessary to put on the rope, and from what I could learn it was the same sort of rough scrambling to the top. On another occasion from the Polnischer Kamm—the actual boundary between Czecho-Slovakia and Poland is considerably further N.—we dropped very steeply down the N. face of the pass to the little Gefrorener See, and then turned sharply E. up a very steep gully to the Kerbschen, a well-marked narrow cleft between the Kleine Vysoke and the Roten Flossturm, and over this pass to the head of the Gross Kohlbachtal, a really lovely valley, and so home, a most enjoyable 8 or 9 hours round.

It was not until we had been a fortnight in the Tatra that a chance came of climbing the Lomnitzer Spitze, the second highest peak of the district, 8560 ft. From our hotel we went up the Klein Kohlbachtal, and in an hour reached a big overhanging rock, locally known as a 'Feuerstein,' which in former days was used as a bivouac. Here we turned off to the right and followed a narrow track to the entrance of a great rock couloir, locally known as 'die Lomnitze Probe,' but it is not in the least difficult; then between some fantastic rock towers 'die Kapelle.' Steep grassy slopes followed by very tedious coarse moraine brought us to 'die Moses quelle' on the N.E. side of the final pyramid. Here the real climbing begins, and it is wise to remember that this is the last sign of water you will see.

The climb begins in an open rocky couloir and continues along a more or less pronounced arête, with a steep slab, again 'improved' by a series of chains. We then turned S. and descended 80 ft. into a wide stone couloir, where we left our axes. A little higher is an awkward corner with a hanging, quite unnecessary, chain, by means of which the climber swings himself round the projecting rock. We gradually bore S., and eventually reached the summit on the S.W. side, without finding it necessary to put on the rope. There are six main climbs on the Lomnitzer Spitze with five variations, of which one or two are reputed quite difficult. As usual the view was very limited by mists, but the Eistaler Spitze across the valley looked a fine rock mass and gives a very sporting climb from the Terry Hut.

One of the stock climbs of the district is the ascent of the Meeraugspitze, a sort of local Rigi, quite simple but a very fine view, so early in our stay Graham and I set off by the 7 A.M. train from Schmecks for Czorbaer See, walked to the Popper See, and from there missed our way and turned up the Trummer-tal and eventually arrived at the Eisse, considerably to our disgust, as it was then too late to rectify our error. It is, however, a lovely valley, and from a little peak above the lake we got a fine view of the Tatra Spitze, the most beautiful of all the Tatra mountains. Later we made an attempt on this peak, but had to retreat discomfited before a blinding snowstorm.

An interesting expedition was to the Grüner See, 2½ hours from Tatra Lomnitz, beautifully situated at the foot of an imposing array of peaks. To the N.W. the fine rock mass of Karfunkelturm rises very conspicuously, and to the S. the Kesmarker Spitze and behind it the Lomnitzer Spitze are seen to advantage but, although it was one of our few really fine days, the peaks were all more or less covered with mist, and satisfactory photography was out of the question. After an excellent lunch at the Friedrichs hut we walked up to the Kopa Pass, leading down to Javorina and Poland. We had hoped to make this hut a centre for exploring the Papyrustaler and the mountains at their head, so well described by Dr. Alfred von Martin in the *Zeitschrift* of the D.O.A.V. for 1908, but the weather never gave us a chance.

Foiled in our attempts to climb, we decided to try our luck underground, and so paid a visit to the ice caves at Dobschau, about 30 miles S. of Schmecks. We took train to Poprad and a carriage and pair from there, and the drive itself through the country of the Zips was most interesting. Arrived at Dobschau the way to the cave leads up the sides of a steep hill, covered with flowers, and with butterflies flitting about in the bright sunlight. There was a large party of Czechs waiting to descend, and we entered with them and climbed down some wooden steps some 30 or 40 ft. and found ourselves in a world of ice with the temperature at freezing. We were in a huge chamber 400 ft. long, floored with ice and with three enormous ice columns reaching to the rocky roof. From this chamber a flight of wooden stairs descends to a second chamber past an ice wall 400 ft. long and 80 ft. deep. The cave is well lighted with electricity and the whole effect is most weird and impressive.

Another interesting underground excursion is to the Bela Cave at Barlangiget, about 6 miles from Tatra Lomnitz. Here

before the inn door the quaint old guide collects his scattered visitors by means of a diminutive trumpet and then leads off to the cave, which is over a mile long and contains magnificent specimens of stalactites and stalagmites. The drive from Schmecks to Zakopane in Poland, over the Zdiar Pass and through miles of fir woods, is very beautiful and affords striking views of the Polish side of the Tatra mountains. From Zakopane it is only a five hour train journey to Krakow, a picturesque old city full of records of Polish national history. Poland is, however, a very expensive country to visit, for not only is the exchange against us but there is a State tax of 40 per cent. on foreigners' hotel bills.

In the principal touring centres of the Tatra one does not notice anything characteristic in the way of dress, but in the outlying villages plenty of extremely picturesque national costumes are to be seen. The women wear Wellington boots—we saw one woman remove hers when it began to rain, tuck them under her arm to keep them clean, and continue her walk barefoot. Brilliant skirts, generally red, and a blue embroidered apron, a red bodice heavily embroidered with gold or silver, big white puff sleeves, and a brilliant red kerchief on the head produce a very striking effect. The men wear white stuff trousers, embroidered with red down the outer seam, white shirts fastened at the neck with a big brass clasp and with elaborate red embroidery at the wrist, and over this a sleeveless leather jacket, embroidered in green or red, and a round cap adorned with red feathers. Some of the houses in the less frequented districts are very striking, being built of unhewn logs, dark brown in colour, the interstices being stuffed with mud, coloured blue or white. The window frames are painted red and the roofs are made of long wooden shingles.

The flora of the district is rich, and the botanist will find many interesting plants, but as the Tatra proper is entirely granite the number of species here is necessarily limited, but to the S., in the Little Tatra, limestone appears and with it a greater wealth of plants. Here in August the sides of the road were blue in places with the lovely *Campanula carpatica* and growing near it *Sempervivum arenarium*, with its big heads of white untidy-looking flowers. The outstanding feature in the Tatra is the extraordinary abundance of the lovely Willow Gentian (*Gentian asclepiadea*), its spikes of bright blue trumpets, two or three ft. high, producing a splendid effect. Mixed with this, in the upper valleys, were great quantities of a dwarf Monkshood (*Aconitum paniculatum*), not growing more than a

foot high. Of other Gentians the gorgeous *Gentiana ciliata* was common and *Gentiana frigida* was found on Kleine Vysoke and *Gentiana cruciata* in the Little Tatra, but nowhere any sign of *G. acaulis*. Above 6000 ft. *Campanula alpina* was fairly abundant everywhere; I have never met it before either wild or in cultivation and I think it is rare; it is very effective with its clusters of sky-blue hanging bells looking at first sight like a *Campanula barbata*. In the woods *Campanula persicifolia* was plentiful. Another striking plant was *Senecio abrotanifolius*, with its brilliant orange flowers very like the mountain Arnica. Of Saxifrages there was a poor show owing to lack of lime, but I found *Saxifraga retusa* on the flanks of the Lomnitzer Spitze. *Swertia perennis*, a rather unusual plant, was fairly abundant in the marshy ground, and *Delphinium fissum* was found in the higher valleys. *Primula minima* was abundant above 6000 ft., mostly as a saxatile plant firmly wedged between the rocks and quite unlike its mode of growth on the Sella Joch or on the top of the Pitzberg above St. Ulrich, where it carpeted the moorland ground. I found no other sign of any other *Primula* at all.

There is an excellent guide to the Tatra by Dr. von Komarnicki called 'Hochgebirgsführer der Hohen Tatra,' in four convenient volumes, with several good sectional maps and full descriptions of all the climbs. There is also a useful German map, 1 : 50,000, both published by Turistik & Alpinismus, Kesmark, Budapest. There is a portfolio of paintings and drawings of the Hohe Tatra, by the late Mr. E. T. Compton, in the Alpine Club, which give a wonderful idea of the character of the district. The 'Skizzen aus der Hohen Tatra,' by Günter Dyhrenfurth and Dr. Alfred von Martin, in the *Zeitschrift* for 1908, are very instructive.

SULDEN AFTER THE WAR.

BY WILLIAM ELLIS.

A GOOD deal has been written about Sulden, but on going there this year I felt it was being rather neglected as a climbing centre with unusual facilities. I met only two English climbers at Sulden. Although I cannot say anything new about the various climbs, this note may interest some of our members and cause them to put in an occasional season in this delightful district. There may be a feeling that since

the change of the frontier matters have not settled down, and that facilities for getting there, arrangements of huts, hotels, etc., may not yet be convenient. This, however, I found from experience to be incorrect. Before starting, my impression was that the journey involved going through to the Valtelline and thence by motor car over the Stelvio Pass. This is, of course, a charming route, which indeed I took on my return, but as it takes three days it is obviously not convenient for the man intent on climbing and limited in time. I found the route from Basle over the Arlberg to Landeck and motoring over the Reschen Pass and from there to Sulden very delightful and quick. You leave London at 2 p.m. and reach Sulden about 8 p.m. next day, by engaging a private motor car from the Post at Landeck. The alternative is to sleep at Landeck and take the Post motor next morning, but this takes 11 hours instead of $3\frac{1}{2}$ to 4 and involves three or four changes. Another very pleasant route is *via* Samaden to Zernetz and thence by the Post motor or private car over the Ofen Pass to Sulden. This takes rather longer than the Landeck route.

Since the war the road from Gomogoi to Sulden has been opened for motors, thereby reducing the time to about a quarter and avoiding the unpleasant experience of the distress to the horses on a steep ascent of more than 3000 ft.

Formerly the German and Austrian Clubs spent large sums in developing this district in the way of footpaths and Club Huts. Several of the latter were destroyed during the war, but other efficient huts have been built, and there is little inconvenience now on this account, while the paths to the huts are excellent.

Although some of us may be unwilling to admit the limitations which age is beginning to impose on us, the long days are no doubt becoming a little irksome, and Matterhorn and Rothorn traverses, although possessing the same charm as ever, impose rather a severe task. Hence I would especially commend the Sulden district, for although there is nothing over 13,000 ft. in height, there is at least the same quality in the climbing and beauty in the glaciers and snowfields and there is nothing of a fatiguing nature. For my climbs there this summer I had invited my old Swiss guide, Josef Kuster of Engelberg, to join me, and I also had Hans Sepp Pinggera, the well-known Sulden guide, and he certainly gave me a very charming introduction to his mountains. We confined ourselves to ordinary routes, and had no difficult climbing,

but for younger men there are several very fine alternatives which in quality come up to the standard of good Swiss climbs. We did the following climbs, none of the days exceeding twelve hours, and many of them less than nine:—

From Düsseldorf Hut the traverse of Hoher Angelus and Vertainspitze down to Rosim-Boden and back to Sulden.

From the Hintergrat Hut across the Sulden Glacier up the snow arête of the Schrötterhorn, along the ridge and over the Suldenspitze to the new Casati Hut.

From there, next day, the traverse of the three peaks of Cevedale and back to breakfast at the hut, broken weather preventing our doing more that day.

A very nice easy day from there along the snow ridge past the Eisseepass, over the Butzenspitze and the Madritschspitze to the pass of that name, back to Sulden by the Schaubach Hut. This hut was destroyed during the war, but is now being rebuilt.

Another very charming day from the Casati Hut over the Kreilspitze to the Königsjoch and up good rocks and snow to the Königsspitze, returning to Sulden direct from the Joch.

Our last climb was the delightful traverse of the Ortler from the Hintergrat Hut to the Payer Hut and Sulden.

The huts mentioned are all excellent, distinctly better than the Swiss huts. They are almost too well 'bewirthschaftet,' for hot roast chicken for dinner with other things to follow passes my previous experience in huts. Whether such luxury is good for you or not is another matter. The hut-keepers are delightful people, and luxuries in the way of plenty of hot water, good beds, etc., made life very comfortable.

The general view of the crescent of mountains from Sulden itself is very fine, and of individual mountains I think Cevedale is one of the most beautiful I have ever seen.

From the Casati Hut one evening we had a magnificent Alpenglügen covering the whole of the three peaks of over 12,000 ft., immediately followed by a full moon rising behind the massif. The view rather reminds me of Monte Rosa on descending Lyskamm to the Lysjoch, except, of course, that it is much smaller, the three peaks of Cevedale representing Monte Rosa from Dufourspitze to Punta Gnifetti, and Pasquale to the S. taking the place of Parrotpitze.

The Königsspitze is, of course, the beautiful mountain in the valley and looks much more formidable than it is really, but perhaps the finest sight is the enormous ice wall and deep

and wide crevasses seen on the descent from the summit of the Ortler to the Payer Hut.

Some of our members may have the impression that life in the huts, owing to the mixture of nationalities, may involve some unpleasantness. I saw only one unpleasant incident brought about by the parties in question unwisely embarking on political discussion.

The hotels in Sulden are excellent and nothing could be better than the service.

I was there the latter part of July and the first half of August, but I think earlier in the season would be better, as there would then be more snow, and climbs from Santa Caterina, like Monte Tresco and others in that district, would be more interesting.

All along the ridge on each of the cols, and even on some of the summits, are the remains of fortifications and wire entanglements. How the men endured the hardships of three winters at 11,000 ft. is almost unimaginable.

THE KAISERGEIRGE.

By LILIAN E. BRAY.

TO the majority of English climbers the Kaisergebirge is probably quite unknown. I myself had never heard of it till in 1923 I spent a season in the Dolomites, and in conversation with Austrians and Germans I was told about it. I was asked: 'Why do you English so often go to the Dolomites and never visit the Kaisergebirge?—the rock there is firmer and the climbs even more difficult.' The prospect of really sound rock appealed strongly to me, though as regards difficulty I had found the Dolomite climbs quite good enough; but I was assured that in the Kaisergebirge there was every class of climb from easy to 'äusserst schwierig,' and I was given long accounts of various delectable climbs on peaks with awful-sounding names, such as Totenkirchl, Fleischbank, etc., of fearsome overhangs, of 300-ft. chimneys, and of 60-ft. traverses where one hung on by one's eyelids.

I made every inquiry as to how to get there, of guide-books and of guides. The first question was easily answered. One goes to Innsbruck, thence a couple of hours rail to Kufstein, and then a walk up to the huts. Of guide-books there is one of the most perfect of its kind that I have ever met

with : Dr. Leuchs's 'Führer durch das Kaisergebirge,'¹ everything being described with such minute detail that guideless climbing is made comparatively easy. Each climb, moreover, is classified, according to its difficulty, as easy, moderate, difficult, very difficult, and extremely difficult, the five classes corresponding to those in our English rock-climbing books. Of guides I could get no information from my Austrian friends ; they vaguely thought there were some to be had, but knew of none by name. The Austrians and Bavarians who are the chief frequenters of the Kaisergebirge hardly ever dream of taking one.

I was lucky in finding a kindred spirit in Miss Marples ; she was also a Dolomite climber, and had heard of these wonderful rocks, and we started off together towards the end of July 1924. On our arrival at Kufstein our first business was to secure a guide. There were five names mentioned in Leuchs's book, and of these Miss Marples had had one recommended to her—Franz Stöger. Hearing that he was at the Hinterbärenbad hut, we telephoned up and, finding him free, arranged to see him. He impressed us most favourably, and turned out all that could be desired in a guide, quiet, careful, reliable, and an excellent climber. We were afraid there might be some difficulty as to his taking two ladies ; but he made no objection, and we settled to pay him 500,000 Kroner a day, which included all food. This was about 34s., much the same as for a first-class Swiss guide, whose board and lodging has in addition to be provided when away from home. There are, moreover, few Swiss guides who would take two ladies, even on the easiest of climbs.

The prices asked for the difficult climbs are prodigious. One guide, while still a porter, took a man up the West Schlucht of the Predigtstuhl, a climb somewhat more difficult than the Schmittkamin on the Fünffingerspitze, and he assured us that he received 300 Austrian shillings (£9) for it. (I may add we did not believe him.) For the best climb of the district, the Ostwand of the Fleischbank, a young guide who came with us as second, and who had never done the climb before, actually tried to get 700 shillings (£21) out of us. Needless to say he received nothing approaching that sum.

¹ The 4th edition (1922) contains a good map 1 : 50000 and several panoramas with routes marked. Price is 5s. post-free from Lindemann's, 7 Stiftstrasse, Stuttgart. Dr. Leuchs had himself done 192 of the routes described.

I found the Austrian guide very different from the Swiss : he is quite polite, but never looks after his party on starting out, never offers to carry anything, though if asked to do so makes no objection. On the climb itself he quite rightly carries nothing whatever. In another respect he differs considerably : he seldom gives any help with the rope unless asked to, and that is a great relief, as I have always found it very difficult to teach the Swiss that one prefers to climb and not to be pulled up every pitch. Another characteristic is that of dispensing with rope whenever possible ; we used to go ropeless on places where no Swiss guide would ever dream of allowing his party to stir without his assistance. We thoroughly appreciated this independence and I enjoyed running ropeless down the Totenkirchl in an hour and five minutes, slipping from rock to rock, dropping off overhangs, and slithering down chimneys regardless of clothes. Stöger had a most curious method with the rope when leading two persons : he tied both ropes to himself and except on very difficult pitches he pulled both ropes in together, one climber being a few feet behind the other. I can't say I much cared for this method, and for the guide the weight of two ropes must have considerably increased his difficulties. It conduced to speed, though perhaps hardly to safety. It is very rarely that a guide takes either food or drink with him, even though he expects to be out all day ; but I never found one averse from sharing anything I had with me, which made my rations extremely short at times.

There is, moreover, a curious arrangement with regard to guides in Austria, a man being appointed to a particular district, and he may not guide elsewhere except by agreement with the guides of that district.

The Austrian mode of climbing has frequently been censured by our English climbers, owing to their inordinate use of *mauerhaken* (iron spikes or *pitons* with a ring at the end). There is no doubt that this is considerably overdone at present ; but there is a good deal to be said for it, for though in *certain places* these *pitons* afford at times excellent hand and foot holds, their use is primarily to ensure the safety of the leader. On many of the pitches there are no belays and no firm standing places, so that should the leader fall, the whole party must be doomed. It speaks a good deal for the method that among all the accidents to the leader that occurred this year, no other member was pulled off. The method is as follows : every party carries several large steel elongated rings opening and

closing with a spring, *karabiner* as they are called, and on a difficult pitch about half-way up, or perhaps just short of the most difficult bit, a *mauerhaken* is hammered in, and the rope coupled to its ring by means of the *karabiner*. Thus should the leader slip he will fall only a few feet, and as the rope will run, the chances are it will not break, and at least no one else can be pulled off. It is also of the greatest assistance on a long traverse, preventing a big swing out for any of the party. The last member must of course detach the *karabiner*. There



FIG. 1.

may be something to be said against this ; but it is certainly preferable to the Swiss method of fixed ropes. The climbs are always done in 'kletterschuhe,' though personally I wore rubber shoes.

There are two good huts from which all the best climbs can be done. The first, at Hinterbärenbad (831 m.), an easy three hours' walk from Kufstein, might almost be called an hotel. It has accommodation for about 100 persons, and is seldom overcrowded. It is well run by Frau Rainer, a most obliging and friendly woman ; the food is well cooked, and there is plenty of variety. The second, on the Stripsenjoeh (1580 m.), about two hours higher, is much smaller. About sixty persons

can be put up, but there are only a few actual bedrooms, many of the rooms only possessing mattresses. Both huts are on the telephone, and it is well to secure accommodation beforehand, especially at the Stripsenjoch, which is invariably overcrowded. In 1924 this hut was not well managed; but this year Franz Stöger and his family were in charge, with an excellent staff, the food was good and quickly obtained, and everything possible done for one's comfort. The overcrowding, unfortunately, was even worse than in 1924, and on Saturday, August 15, a great national holiday, 250 persons spent the night at the Stripsenjoch hut. Where they all slept, or if any of them slept, I cannot say. The innkeeper came round in the evening and warned all those who had booked beds or mattresses to retire early, or their places would not be kept. About 9 o'clock, after having fought our way through the crowded sitting-room, we found ourselves faced with a climb of considerable difficulty, as the passages and stairs were covered with recumbent and sitting figures, between which we had to pick our way with much delicacy. Every evening there used to be music (of a sort)—a harp, a zither, a guitar, sometimes played singly, sometimes all together, possibly a mouth organ as well—and singing; perhaps shouting would describe it better, when at least twenty men sing in a small room at the tops of their voices. The favourite song in 1924 was a violent revolutionary song sung by a group of Munich students; it was repeated at least six times every evening, and our bedroom being over the sitting-room we were generally lulled to sleep by it.

Owing to the overcrowding, this hut can hardly be described as comfortable.

The Kaisergebirge is divided into two groups by the Kaiser Thal, *viz.* the Wilder Kaiser, S. of the valley, and the Zahmer Kaiser, N. There are no climbs on the latter.

The Wilder Kaiser consists of a ridge running E. and W., the best climbs being on three great arms projecting to the N. and separated from one another by huge gullies, each arm carrying several peaks. The most westerly arm consists of the three Halts, Kleine Halt, Gamshalt, and Ellmauer Halt, 2344 m. = 7688 ft., the latter being the highest in the whole group. These can all be climbed from Hinterbärenbad, one and a half to two hours being needed to the foot.

The Kleine Halt has no walking way up as many of the peaks have; but it has one moderately difficult side up which we had a very pleasant guideless climb this summer. There

are ten routes described up this peak of varying degrees of difficulty, most of them up huge slabs affording the most delightful climbing, perfect rock and extreme exposure. We had a very pleasant climb up the N.-W. face in 1924 with Stöger. From a distance this face looks a most desperate venture, nothing but great bare slabs; but actually on closer acquaintance there are considerable cracks between the slabs, up which the climbing proceeds with comparative ease, and the inclination is not very great. There is also a good climb on the E. side of the ridge leading to the Gamshalt, with one distinctly difficult slab.

The Gamshalt itself is not climbed except in connexion with the traverse.

The Ellmauer Halt has a well-made path with wire ropes, but is not so frequented for climbing purposes as the Kleine Halt, as the rock is not good. There is a very pleasant climb by a long ridge, the Kopftörlgrat, which is classified as 'difficult'; but except for two pitches towards the end, which were of no great difficulty, we never even put the rope on.

The next arm, separated from the three Halts by the Hoher Winkel gully, divides into two at its northerly end, separated by the Schneeloch, a curious hollow always filled with snow. One arm carries the Totenkirchl (2193 m. = 7192 ft.) and the other the Fleischbank (2187 m. = 7173 ft.), and they are joined on their southern end by the Hintere and Vordere Karlspitze. Between this arm and the next is the Steinerne Rinne. This stone gully is a marvellous creation, quite unlike anything I have ever seen. It resembles a steep glacier, and must have contained one originally. The upper part is a succession of enormous slabs, the lower part more broken up. A good path has now been made, with steel ropes at the exposed bits, so that the ordinary walker may use it to cross to the Grutten and Gaudeamus huts.

The third arm contains the Predigtstuhl and the two Goinger Halts, while the peaks farther to the W. are hardly worth climbing.

The Totenkirchl is a curiously shaped peak, roughly a three-sided pyramid, the E. and W. sides almost perpendicular, but the N. very much broken up, its great feature being three broad, well-marked grass terraces. From the foot to the first terrace, and again from the first to the second terrace, is a series of narrow parallel chimneys, all of them affording good climbing, and most of them extremely difficult; several can be approached only by long, delicate and exposed traverses.

They are generally tackled on days when the weather is not good enough for a long climb, and I have spent many half days struggling up these chimneys, tearing my clothes and hands. There is one specially famous in this respect, the Christ-Fick-Kamin ('sehr schwierig'), which always demands some loss of skin or clothing. One man during our stay this year scraped

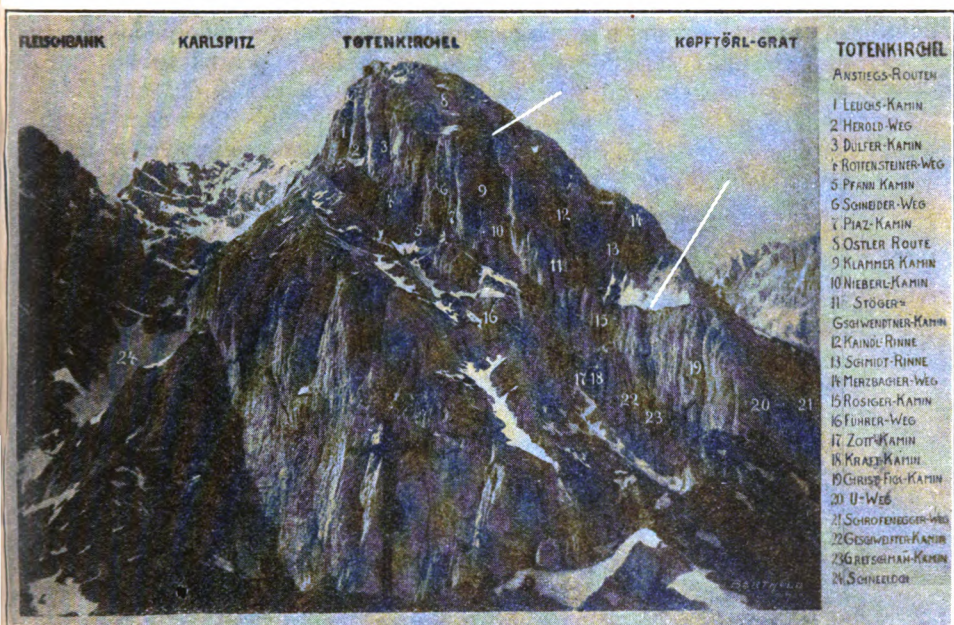


FIG. 2.

N. FACE OF TOTENKIRCHL.

The white lines point to the two upper Terraces. The lowest is below 17-23.

See Note at end.

his knee so badly that he was unable to climb again for a week. I did it in 1924, and remember suffering pretty considerably from it in the way of scratches and bruises.

There is no walking way up this peak; but the Führerweg, though intricate, presents no real difficulty, and from the second terrace to the top is only a walk. It is always used in the descent, with an *abseil* down one or other of the chimneys as a short cut.

Of the four ascents we made of this peak the W. wall is the

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one best worth describing. There are two ways up it: one, the Dülferweg,² leads direct to the summit; the other, the Piazweg,³ ends at the second terrace, and it was this latter route that our guide Stöger proposed to us in 1924. On this occasion I went second on a 100-ft. rope, and Miss Marples followed on an 80-ft. rope. The first part is over slabs, up cracks, and along fairly difficult traverses. The first real difficulty is up a shallow, exposed crack followed by an upward traverse over somewhat broken slabs where the rock was extremely doubtful and the only standing place a block, which appeared to be merely perched, and waiting to be pushed over. I did not much fancy the idea of standing on it and bringing my companion up, but fortunately there was a *mauerhaken* above as a belay, and Stöger from the top of the next pitch assured me that he was well placed and could hold the two of us. The great pitch of the climb is the Piazwand, an 18-ft. slab with apparently neither foot nor hand hold. As second, I took my stand in a little niche and Stöger reached up and hooked the rope on to a *mauerhaken*. There should have been a second one higher up the slab, but we had to be content with the one. The only means of ascent of this slab, on which there were really no holds, was by seizing the smooth edge of a flake, and at the same time getting some sort of a push off from the slab by one's feet. Sufficient to say that it was extremely difficult, and I could not actually see how Stöger managed it, as I was firmly wedged in my niche and engaged in paying out the rope. Miss Marples and I are both ready to admit that we had some help from the rope when it came to our turn. The climbing after this was easier for a time, then a great struggle up a crack and finally a long traverse which began as a broad grass ledge and ended with a steep and awkward descent down a shallow crack into the southernmost of two huge parallel chimneys opening on to the second terrace. We ascended only one pitch (about 70 ft.) in this chimney, and then had to cross over into the other, the traverse being made by means of the rope. My companion was the first to be lowered. I could not see what was happening, but heard repeated directions shouted by Stöger, and it took a good ten minutes before she called out that she was firmly settled 'somewhere.' I found it a most

² Herr Hans Dülfer, a very famous amateur, killed before Arras in 1915. His portrait is given in 'Der Berg,' 1924.

³ G. B. Piazz, the well-known Dolomite guide, of Pera, Val di Fassa.

awkward descent, though it was much easier for me, as I had the first rope to guide me. First a long downward traverse,

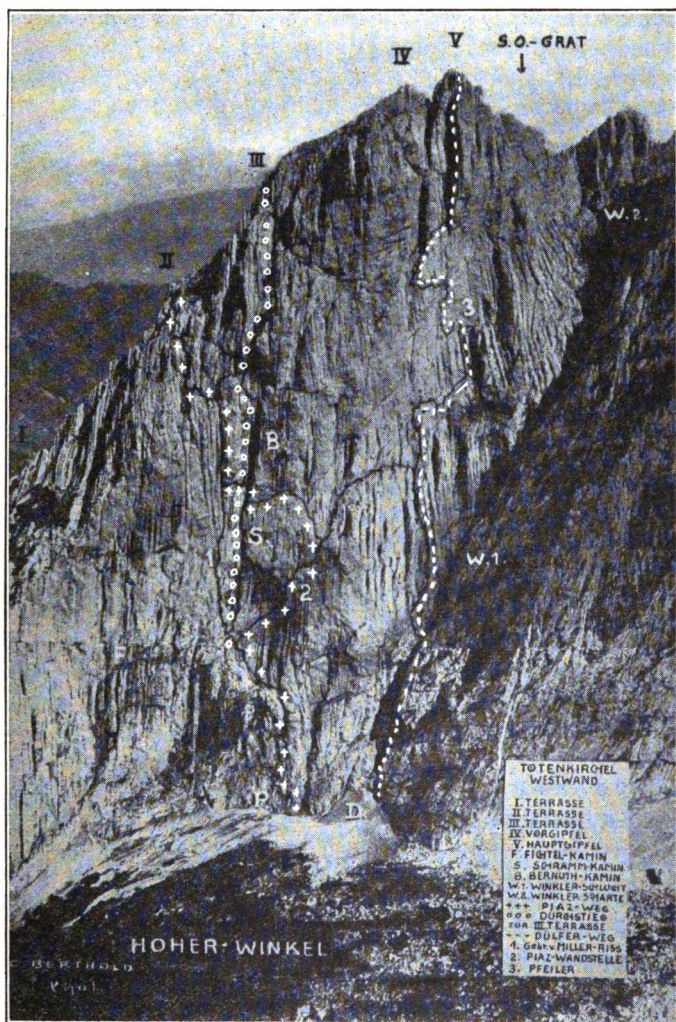


FIG. 3.

W. FACE OF TOTENKIRCHL.

See Note at end.

then a short descent to a *mauerhaken*, to which the first comer had attached the rope, then a further traverse, even a few steps up at one place, till with an awkward twist round an

overhang one lands in a comfortable niche in the northerly chimney. Stöger himself came down on the two ropes knotted together. The chimney, nearly 800 ft. high, was anything but easy, and towards the top very rotten. The sun had reached us and was shining full into the chimney, the heat was extreme, and there seemed a succession of chockstones and obstructions which required the most strenuous arm work. The opening at the top was, as is so often the case, blocked by the largest chockstone of all, and the final effort the greatest, when with both arms grasping the stone, and feet kicking into space, one gradually heaved oneself up grunting and panting on to the grass of the second terrace. The climb, though fairly strenuous in places, took us six and three quarter hours.

Of the other climbs on this peak the S.E. ridge is perhaps the favourite. It begins at the top of the Winklerschlucht and starts with an extremely delicate traverse round a corner. It is a climb which requires balance rather than strength, and there are three interesting towers which have to be conquered. Though the difficulties are considerable, some of them can be avoided; the only one we avoided being an *abseil* down one of the towers, for which 180 feet of rope was required, and where numerous deaths had occurred. We expressed a wish to try it, but Stöger firmly refused. These climbs, with the Nordkante of the Predigtstuhl, were the chief ones we did in 1924. We had, of course, planned many others; but the weather was unkind to us. We had our guide for eighteen days, and climbed only on seven whole and two half days.

This summer was an unfortunate one for the Kaisergebirge, as there were no fewer than eleven deaths in this small district, and one accident which did not prove fatal; five of the deaths occurred during our first week. Four young men perished from cold and exhaustion on the Totenkirchl. They set out in bad weather, were overtaken by a snowstorm, but persisted through it to the summit. On the way down, having no food and no warm clothing, they became exhausted. There were other parties on the mountain who assisted them as long as they could and, when about two-thirds of the way down, hurried on to the Hut for help. A rescue party set out, and soon came upon them, all in different places, one at the top of the last chimney, one half-way down it, the former ⁴ with his

⁴ A well-known climber, Herr Hugo Fenk, who had ascended the mountain many times. It is reasonable to assume that he was delayed by his companions.

arm so tightly wedged in a crack that it had to be broken to release the body. The other two had accomplished the descent of the chimney, but seemed unable to go any farther. They were none of them more than half an hour's walk from the hut, and it seems almost inconceivable they could not have struggled on that short distance. They were all dead when help arrived, and owing to the continuous bad weather their bodies could not be brought down for two days. The other accident while we were there was that of a well-known guide, Hans Fiechtl, a man of little over forty, and a very famous rock-climber. He was with an Austrian doctor on the Totenkirchl, by a route which he had made for the first time the previous year and which had not been repeated. Why he fell is not known, as the doctor did not actually see it happen. They had got over all the most difficult part when suddenly there was a cry. The doctor, about twenty feet below, had made himself fast to a *mauerhaken* and was able to hold on while Fiechtl fell the whole length of the rope, which naturally broke.

Another death earlier in the season was that of a boy of 17 on a variant of the famous E. wall of the Fleischbank. A well-known climber, Herr Leiss,⁵ whom I met several times in 1924, set off with two boys, and when about half-way up the climb one of them fell. The accident seems never to have been fully explained. The leader said the boy should have secured himself to a *mauerhaken* while the other two were overcoming a difficult pitch. He seems to have fallen without a cry; the others heard a fall and thought it was a stone, but on looking round found that he had disappeared.

On our arrival at the Hinterbärenbad Hut at the end of July this year we were met with the tale of six deaths, and within three days five more occurred. The inhabitants were naturally overcome by all these calamities, as in 1924 there had not been one, and never so many before. Stöger came to us saying that he had no heart for climbing any more. He had had to attend personally to nearly all the accidents, his best friend Fiechtl had just been killed, he was now the inn-keeper at the Stripsenjoch Hut, he had a wife and four children, he was over 40, and the long and short of it was that he wished to give up guiding altogether. We were naturally disappointed, but could not press a man in such circumstances. There were

⁵ Lately reported killed on the Gehrenspitze. See under Notes.

now only two quite young guides in the district, who had passed their guide's examination only in June. Stöger strongly recommended one of them, Ernst Egger, as an excellent rock-climber, who had done most of the climbs in the district; and after making further inquiries, we took him on for a fortnight.

The weather was kind to us and cleared up brilliantly for our first climb, the Botzongkamin. This is one of the most popular ascents of the Predigtstuhl, the whole of the climb lying in a very deeply cut chimney with several pretty strenuous pitches. It may be compared with the Schmittkamin of the Fünffingerspitze; but I thought it more difficult. We were annoyed to find a party of four in front of us, consisting of a young man (the leader), his father, a boy and a girl. There was considerable delay in the first pitch as the father was not a rapid climber; but after that they invited us to pass. The final pitch is generally considered the most difficult and has a large chockstone at the top. It proved on this occasion to be wet and greasy, and our young guide Ernst spent nearly half an hour at it. He tried straddling across, he tried backing up, he twisted himself round and round, he groaned and panted; but never succeeded in advancing higher than the first few feet. In the meantime the other party caught us up, and after watching Ernst's struggles, the leader proposed to try the wall on the right, a pitch of about seventy feet, exposed and steep; but it was broken up and looked possible. The young man was a superb climber, and ascended slowly but with apparent ease, his young brother of 16 giving him copious directions from below: 'Look, Franzl, you have a good foothold on your right'; 'Why don't you go to the left, it is much easier that side,' etc. To all these directions Franzl paid not the slightest attention, but continued his steady ascent, and if it had not been for the occasional remarks he let fall we should hardly have realised the severity of the pitch. After a few minutes: 'This is very difficult,' then 'this is extremely difficult,' and finally when he had traversed to the left and got safely on to the top of the chockstone of the chimney: 'This is more severe than anything on the Fleischbank.' Having seen Franzl safely accomplish the pitch, Ernst set off after him, and at the same time the girl of the other party started to follow her brother on the rope. All went well till Ernst was about halfway up, when he obviously got into difficulties and Franzl, inquiring whether his sister could stand for a moment, invited

Ernst to tie on to his rope, which he was only too thankful to do. A most dangerous situation was now created: Ernst and the girl were both on the same rope, only a few feet from each other; the two had to move together over the most hideously difficult ground; there was not a single place where either could rest with safety for a moment. Had the girl slipped, Ernst must inevitably have gone and, as the leader was not directly overhead, there would have been a big swing out, and the chances are the rope would have broken. We all watched them from below in dead silence, and it was a relief when we saw Ernst make the traverse to the left and step on to the chock-stone. The rest of us could have gone up the chimney; but my companion and I decided for the wall, and left the chimney for the other party. It was certainly one of the most difficult pitches I have ever done; it began very steeply, then it became quite perpendicular, and finally overhanging; all the footholds were inclined, all the handholds were rounded, and practically no help could be obtained from the rope. The last bit was the most difficult, consisting of a traverse under an overhang, ending with an immense stride on to the chock-stone. To add to our difficulties, owing to the long wait we were very cold and our fingers were completely numbed before we reached the top. The two who came up the chimney told us afterwards that there was really no appreciable difficulty and that, provided they did not go too far in, it was hardly wet.

The next two days continued fine and we had some very pleasant climbs, though our guide Ernst did not inspire us with great confidence, and we soon realised that it would be out of the question to attempt any of the best climbs with him. On the fourth day he appeared in the morning with his foot bandaged. On inquiry it appeared that he had woken up early with a bad pain in it. 'No, it was no use my looking at it, there was nothing to be seen, it was not swollen, it was not hot, it just hurt, it would certainly be better in a few days, perhaps even to-morrow.' We were in despair, a fine day lost to us, and we turned to our old guide Stöger for advice. He was most helpful, and quite realised that, with a young boy like Ernst, we could not tackle the best climbs. As there was no better guide to be had he offered to approach a young student, Franz Ploner, of Kufstein, who was only 22, but had the reputation of being the most brilliant climber in the Kaisergebirge. There was nothing he had not done, and he had

climbed the famous Ostwand of the Fleischbank no fewer than seven times. We were assured that, like many students, he would be delighted to accompany us in his holidays. We were no less delighted to hear of him, and a few minutes' talk with him that evening sufficed to settle matters. We engaged him to come with us on the Fleischbank, and one or two other of the picked climbers. He turned out a magnificent climber, every pitch, however difficult, being quietly conquered without any apparent struggle. Nothing ever disturbed his equanimity or good temper; whatever happened he merely replied: 'Macht nix.' If all the ropes got hopelessly entangled, he smiled: 'Macht nix,' and leant calmly against a rock while we disentangled them. If from the bottom of a pitch I complained that there was no sign of hand or foot hold: 'Macht nix,' and he would quietly sit with the rope round a belay waiting till I had overcome the difficulty, never offering any help with the rope unless actually asked to. His calmness and unlimited patience certainly made him an ideal leader.

For two days after this the weather was bad, and Ernst's foot recovered, in fact on the following day it appeared already sufficiently recovered for him to walk down to Hinterbärenbad and back with his friends. On the Saturday it cleared, and we arranged with Ploner and Ernst to go up the W. wall of the Predigtstuhl, a face climb being preferable after wet weather. This is a short but extremely pleasant climb on firm rock, and of no very great severity except for two short traverses, and even these, we were told, had been made easy by the aid of *mauerhaken* as handholds. We went on two ropes, Ernst leading. All went well till we came to the first traverse, and there to Ernst's dismay it was discovered that the *mauerhaken* was wanting. We heard afterwards that a few days previously some climbers had found the traverse too easy and taken the *mauerhaken* out.⁶ We had several *karabiner* with us, but neither *mauerhaken* nor hammer. Though only about twelve feet, the traverse was excessively difficult. It was overhanging, and the first movement was to get the body up on to a narrow ledge, where fortunately there was one good hold which sufficed; but the difficulties were still to come. A couple of steps had to be taken to the left, and the one satisfactory hold relinquished, the only other hold being a minute and totally unsatisfactory

⁶ The property in *mauerhaken* is the subject of animated letters in 'Der Bergsteiger'!

finger hold. Standing precariously hugging the body close against the overhang, the left foot must be stretched out as far as possible (farther than possible for my companion and myself) and the left hand extended towards a handhold which appeared hopelessly out of reach. Everything depended on the fingers of the right hand keeping the body against the rock, tolerably easy with help from the rope above, but certainly extremely difficult for the leader. Ernst tried it for some fifteen minutes, and though his safety was assured by a *mauerhaken* so that he could only fall a few feet, it was unpleasant watching him. After a time Ploner took the lead and quietly walked across the traverse, and in the end Ernst also managed to get across without assistance, though Ploner left an end of rope hanging in case of need. I must do Ernst the justice to say that he was rather short, while Ploner was tall, a great advantage on such a pitch. The next traverse was a very similar one, but this time the *mauerhaken* hung in place, and it was crossed without difficulty. We descended by a pleasant route on the S.E. side, some very exposed ridge-climbing and then a free 45-ft. *abseil*, somewhat exciting for the first man, as the rope did not hang over the landing place, so that he had to get up a sideways pendulum swing till he was able to seize the rock and alight on a small col.

In the evening the weather broke again, and it was still raining on the following morning. When we came down we found somewhat to our surprise that both Ernst and Ploner had disappeared. They were said to have gone down to Kufstein. Ploner, of course, had the right to do as he pleased, as he was only engaged for a couple of climbs; but Ernst was our guide for a fortnight, and should at least have asked our leave. However, the weather did not clear till the evening, so nothing was lost. The following morning was brilliant, and we came down early, hoping to find Ernst. We waited till nine o'clock and then engaged the other young guide, Rudi Rainer, and had a pleasant climb with him up the E. wall of the Totenkirchl. He had never done it before, and this made it rather more enjoyable, as we had to have frequent consultations over the guide-book.

On our return we learnt that about 3 o'clock Ernst had telephoned up to know what we were doing, and had been informed that we had taken another guide, that we had strongly expressed our feelings over his behaviour, and that we intended to dispense with his services. Sympathy appeared to be

entirely on our side. Our difficulty now was to secure Ploner. By assiduous telephoning we ascertained that both he and Ernst would be up that evening. We waited till 11 P.M. and at last they arrived. Instead of coming to apologise, Ernst avoided us altogether and retired into the kitchen, but Ploner came in to us and we approached him at once as to attacking the Fleischbank on the following day. As we rather expected, he made some difficulty, for he and Ernst were friends, and at first he refused to do it without him. However, we found him open to reason, and at last matters were arranged with him and Rudi, and the start fixed for 6.30.

We thought ourselves very lucky to get the climb, for it is essential to have settled weather for it; moreover, after rain, one day must elapse for the rocks to dry. In 1924 we were always put off by the weather.

To look at the E. face of the Fleischbank one marvels how anyone could possibly have conceived the idea of climbing it. It appears an almost unbroken perpendicular wall, of 1200 feet, the exposure is terrific, and except for one chimney at the top it is entirely a face climb; and even this chimney is frequently avoided, owing to its difficulty, and the wall at the side climbed instead. The great feature consists of two long traverses which are unlike any I have yet come across, as on most traverses one finds some sort of handholds, even of the most minute description, which suffice to give balance; but these traverses are really totally devoid of any pretence to a hold. I had the pleasure of meeting Herr Schaarschmidt in the Dolomites this year, who, with the late Herr Hans Dülfer, made the first ascent. He told me that they took only four and a half hours, and, what is even more wonderful, they used only two *mauerhaken*. There are now about twenty!

We were off punctually at 6.30, and started the climb about 8 o'clock. Our order of going was, Ploner, Rudi, myself, Miss Marples, though on the traverses Rudi came last. We began with a long traverse to the right, which in this climb might be described as comparatively easy, but which on any ordinary climb would certainly be classed as difficult, there being several distinctly delicate pitches; thence up extremely difficult cracks and slabs to a deep overhanging hole. On the overhang above the hole a rope sling is attached which serves as a handhold, for the overhang itself is singularly deficient in this respect; but even with such aid the leader can get out only by standing on the shoulders of his second. The rest of the party have to be aided—pretty considerably—by the rope.



N. FACE OF TOTENKIRCHL
from above Stripsenjoch.



FLEISCHBANK.
E. face.

After this the climbing proceeds up minute shallow cracks to the famous first traverse. The pitch immediately below the



FIG. 4.

E. FACE OF FLEISCHBANK.

See Note at end.

traverse I found more difficult than any other. I must confess to having slipped on it, and Rudi made the same confession to me. It was excessively difficult, very strong finger-work on minute holds being required ; but Miss Marples managed

it triumphantly. The great traverse is about twenty metres long in all, with a poor stance at the beginning, but a good one at the end, and would be totally unjustifiable without some external aid. It consists of absolutely smooth, steeply inclined slabs, slightly curling forward at the bottom, and completely devoid of any handholds whatever. A succession of *mauerhaken* have now been placed across the traverse about ten feet apart, and it is the work of the leader to attach to them a rope, which, when firmly fastened at either end, serves as a handrail for the rest of the party. The way the leader does this is by first climbing up a crack to a *mauerhaken* considerably higher up; he threads a rope through this and then swings himself down to the row of *mauerhaken*, and passes another rope through each in succession, working himself along with his feet. When once the handrail is in position there is practically no possibility of a slip; but to fix the rope takes considerable time and skill. The traverse can of course be done from the single *mauerhaken*, each member swinging himself across in turn; but with a large party the handrail is safer. I was second on the traverse, and I had good practice on it, as, for some obscure reason, Rudi fastened another rope to me, telling me to attach that one also as I went along. When half-way across, Miss Marples's voice was heard from the bottom of the difficult pitch below the traverse: 'What is going to happen to me—my rope is being dragged sideways?' It was then perceived that Rudi, while holding me by the extra rope, had forgotten to take the rope between me and Miss Marples, which was dragging across, and making it impossible to give her any help when it came to her turn to tackle the pitch. I had, therefore, to retrace my steps till Rudi secured the rope, and then start afresh. Rudi, as last comer, had to detach the ropes, and there was a glorious mix-up when we got across, three ropes in a hopeless tangle. There was, however, a thoroughly good resting-place at that end, and we sorted them out at our leisure. After this the climb was comparatively easy for a short time, till we reached the second traverse. This begins as a hand traverse for about ten feet, which is at first level, and then rises. There are thoroughly satisfactory holds on the edge of a crack, and good purchase can be obtained by feet or knees which help considerably; but of actual footholds there are none. Then comes a curiously easy grass ledge for a few feet, on which one can walk upright, and after this about twelve feet of slab devoid of any sort of hold. This is crossed by means of a rope which the leader has previously

attached to a *mauerhaken* about ten feet above, and there is no great difficulty in working oneself over by pressure of feet on rock till a good foothold is reached, and one, somewhat reluctantly, releases the spare rope. I was again second and, having attained the foothold, I saw Ploner sitting in a large hole watching me, with a huge smile on his face: 'Hier spreizen,' he remarked laconically, and I saw that the most enormous stride had to be taken into the hole. Fortunately there was a thoroughly good hold on the edge of the slab, which could be gripped with both hands and the great stride taken in safety, and I joined Ploner in his hole, where we both sat with smiles upon our faces waiting for Miss Marples. After this the climbing continued in much the same way, some bits being not quite so difficult as others, until we came to the last two pitches, the chimney and the crack. Those with a certain breadth of body prefer the excessively dangerous wall on the left; but our leader selected the chimney. This is just about as narrow as is possible for a human body to get through, and for about twenty feet progress proceeds by inches; then comes a very awkward climb out with a long step, and the remainder of the chimney (still so called) is climbed with great difficulty on exposed ribs on the left. One more pitch accomplished, and now there only remained the crack. This begins so deeply that the body is inserted into it; but soon a swing out has to be made in to a couple of parallel cracks. The swing out is aided by a small rope sling attached to a *mauerhaken*, for the rock is overhanging and smooth. I pulled myself out by the sling; but the difficulty was not over, for I could find no higher handhold and there was nothing that could be described as a foothold except by a stretch of the imagination, and I seemed done, till I suddenly conceived the brilliant idea of putting my foot into the sling. I hung on to the *mauerhaken* by one hand, raised a foot to the level of my head, and with some difficulty inserted it into the sling, and then with complete ease, if not with dignity, surmounted the overhang. I noticed the rest of the party were not above following my example. The remainder of the pitch was accomplished by getting astride a narrow rib with one foot in the crack and shinning up; and a few more steps took me to where Ploner was sitting, with his rope round a huge belay. 'Jetzt losseilen' was his welcome remark, and a quarter of an hour's scramble took us to the top, and personally I was not sorry to be there, as my arms were getting decidedly weary. The ordinary way down is easy, but over unpleasant rotten rock, and we made

most of our descent by the Dülferriess, with a succession of *abseils*.

It is by a long way the most strenuous rock climb I have ever done. I have actually come across more difficult pitches on other occasions; but I know of no climb which has such sustained difficulty, and the extreme steepness and poor footholds entail very severe arm work. The rock was good throughout, I cannot remember a single loose hold; and there was no danger from falling stones. We took eight hours actual climbing, and thirteen hours in all; the guides took nothing whatever to eat or drink with them, except one very small flask of 'Schnapps.' We had each one slice of bread and jam and some chocolate. When we reached the summit, the bread had dried to the consistency of toast, the jam was a brown layer of shrivelled currant skins, the chocolate had evidently suffered in its passage through the chimney, and was a sticky, crumbled mess. Such as it was, however, we shared it with our guides, so our own portion was not a large one. I will not mention what I ate and drank on getting back. The only climb to compare with this in the Dolomites is the S. wall of the Marmolata; but to my mind there is no comparison as regards difficulty, for on the Marmolata my guide Piazz and I were able to move together for quite half the time, whereas on the Fleischbank I can recall only one occasion when we were able to do this, and that was for about three minutes only.

Altogether I consider the Kaisergebirge the best rock-climbing centre I have ever come across; the rock is almost invariably good, and from the two huts mentioned different climbs can be made every day. Many of them are very difficult, but there are quite a fair number of extremely pleasant ones of a moderate description. On the whole, however, they are of a distinctly higher standard than in the Dolomites. I met no English there, but the Austrians and Bavarians are most friendly and always ready to discuss a climb and give advice; and though at the moment there are only these two quite young guides in the district, the student Franz Ploner, Kufstein, is quite willing to act as such, and no one could wish for a better companion on the rocks.

The following should be consulted by intending visitors:

Dr. Leuchs's *FÜHRER DURCH DAS KAISERGEIRGE*, 4th ed.

ANWENDUNG DES SEILS, 12th ed. (describes in detail the latest *Mauerhaken-Karabiner* practice).

WILDER KAISER, Sonderheft of the monthly **DER BERG** for November 1923, contains detailed accounts and pictures of the Fleischbank Ostwand and the Totenkirchl Westwand by the well-known climber and author, Herr Franz Nieberl, of Kufstein, President of the local section of the D. und Ö. A.-V., a great authority on the district.

DAS TOTENKIRCHL, by Franz Nieberl, 2nd ed. 1923, an admirable and well-illustrated guide to the mountain.

DER BERGSTEIGER, 1924, p. 233, gives a good account of the ascent of the Totenkirchl Ostwand.

DER BERG, 1924, p. 385, contains an illustrated account of the famous Dülferriß on the Fleischbank, a desperate climb originally ascended in 1913 by Herr Dülfer *alone*, now mostly descended on the rope.

ZEITSCHRIFT DES D. UND Ö. A.-V., 1917, contains a good history of the group by Dr. Leuchs.

There is an account of the ascent of the S.E. face of the Fleischbank in the **DEUTSCHE ALPENZEITUNG**, 1925.

NOTE ON ILLUSTRATIONS.

As already stated, the faces of the Totenkirchl are bounded by :

1. A ridge thrown off to the N.W. towards Hinterbärenbad.
2. A ridge thrown off to the N. towards the Stripsenjoch.
3. A ridge thrown off to the S.E. to the Winklerscharte.

The N. face, more broken than the other two, is bounded by the N. and N.W. ridges ; the W. face by the N.W. and S.E. ridges ; the E. face by the N. and S.E. ridges.

The N. face carries three well-marked terraces (see Fig. 2), the two upper reached by very steep pitches, seamed with many chimneys, practically all now climbed. These are indicated and named in Fig. 2, and particulars of each will be found in Leuchs's Führer. They are the more regular lines of ascent.

Fig. 3 shows the two routes followed on the formidable W. face, viz. to the right, the direct route followed by the first climbers, Herren Dülfer and v. Redwitz in 1913, and to the left, the route made by the Dolomite guide, G. B. Piaz, in 1908. These routes were long considered the limit of possible rock-climbing. Miss Bray and Miss Marples followed the Piaz route. The E. face is considerably easier.

Fig. 4 shows the route (to the right) up the E. face of the Fleischbank done by Herren Dülfer and Schaarschmidt in 1912,

and rated as the *ne plus ultra* of rock-climbing—anyway for the present. This route was followed by the two ladies of the present paper.

To the left is the extremely hard Dülferriß climbed alone by Herr Dülfer in 1913—now seldom used except to rope down.

Fig. 1 shows the method of using pitons and *karabiners*.

The two large Plates explain themselves.

A TRAVERSE OF THE SCHRECKHORN-LAUTERAARHORN RIDGE.

By J. H. B. BELL, S.M.C.

IT was on a clear sunny morning, July 22, 1925, to be exact, that I first caught sight of the intriguing, spiky ridge of the Lauteraarhorn. My friend Smythe and I had inaugurated our climbing season by the ascent of the N.E. face of the Jungfrau. We had just spent the night in the Bergli hut, and depletion of the commissariat necessitated an immediate descent to Grindelwald. I looked doubtfully at the array of pinnacles; but Smythe, who had already climbed the Schreckhorn and who seemed to be perfectly familiar with the climbing history of the Schreckhorn-Lauteraarhorn traverse, assured me that in its snowless condition we should be well able to deal with the problem in less than twenty hours.

On Saturday, July 25, we found ourselves in the Strahlegg hut. The weather was very bad, new snow was falling higher up, but we had provisions for about five days at least. An inspection of the Schreckhorn on Sunday from the Strahlegg-horn showed a good deal of new snow on the ridge, and the weather still doubtful. We decided that a day's sunshine was needed to clean the place up. So it happened that on Monday evening all was prepared, and the trail was blazed up to the bergschrund beneath the S.-W. ridge of the Schreckhorn.¹ There was a goodly company in the Strahlegg hut that evening, and a vivacious gentleman informed us that, along with two guides, he had covered the ground from Schrecksattel to

¹ [First ascent by Messrs. C. Wilson, Wicks, and Bradby, July 26, 1902. First descent by Messrs. Greenwood, Ling, and Raeburn, July 23, 1906.]

Lauteraarhorn in three hours, and that they moved together practically all the time.

There certainly did not seem to be any reason for leaving as early as midnight. So we were among the last to leave the hut on Tuesday morning. It was 2.50 A.M.; the night was calm and starry; the snow was crisp, and the going good. Our lantern soon gave out and we did not relight it. We made rapid progress and reached the bergschrund by 5 A.M. This went easily by a convenient snow bridge, and we started up the first section of the S.-W. ridge. There was a magnificent dawn-glow from 5.15 to 5.22 A.M., especially on the Finsteraarhorn and the Klein Fiescherhorn, but a bitterly cold wind had sprung up. Smythe assured me it was only the dawn-wind, but I was doubtful. The first section of the arête was a long, straight, steeply sloping shelf, bounded by a well-marked rock ridge on the valley side, and overhung by the Schreckhorn cliffs on the other. The going was fairly good, long slabby sections with steep snow-slopes between. There was little ice on the rocks, but step-cutting was required frequently where the snow-slope became hard and icy. We reached the top of this section at 6.55 A.M. and had our second breakfast. The height, by an aneroid which read truly both at top and bottom, was 3745 metres.

Up to this point we had been fairly sheltered, but we now experienced the full force of the wind, which blew out the rope in great festoons on the narrow parts of the ridge. It was the first time that I found it necessary to climb difficult rocks in gloves throughout the whole day. We found the rock delightfully firm and made rapid progress. The route lies very near the crest of the ridge, and though there are steep and difficult sections occasionally, the rough, firm texture of the rock makes climbing a pleasure. We reached the summit of the Schreckhorn at 9.15 A.M.

We did not remain long on the summit, but hurried down the ridge towards the Schrecksattel, passing on the way two other parties from the Strahlegg hut. We left the col about 10.15 A.M. to negotiate the first pinnacles of the Lauteraarhorn ridge. These were not very difficult, and about 11.30 we halted in a sheltered position for a meal. The view was indeed magnificent. Centrally placed in the foreground was the Finsteraarhorn, its long ridge showing to great advantage. Of the Pennine Alps, the Matterhorn, the Weisshorn, and the Mischabelhörner were most conspicuous. Mont Blanc was clearly visible farther to the W. On the other side of the

ridge the St. Gotthard peaks and the Tödi were perhaps the most impressive, but we had to pay for the good visibility with the bitter N.-W. wind which never left us for a moment.

Neither of us had been over this route before, so we determined to keep the crest of the ridge and go over every pinnacle, unless we were sure it could be avoided. After surmounting a huge fellow, we soon encountered the first serious difficulty. This was a slabby descent to a little col, the descent being on the western side of the ridge. It was a decidedly unpleasant place for the second man to negotiate. The next ascent did not seem to go at all on either side, and it was here that we made the mistake which cost us about two hours. We descended a little way on the W. side of the ridge, and then found we had to descend ever so much farther over rotten rock, until at last we were able to make a secondary ridge which, by a steepish climb, led us back to the main ridge beyond the difficulty. We are both more or less in agreement that the crest of the main ridge should never have been left at all. At any rate we had lost two valuable hours, and it was now a case of putting our best foot foremost if we were to get off the mountain and over the Strahlegg Pass before dark. We had still one outstanding pinnacle and a host of subsidiary ones to deal with before reaching the Lauteraarhorn summit; but we met no obstacles which necessitated our leaving the crest of the ridge to any extent. We had both been over the main ridge of the Coolin in Skye during the previous summer, and we found the work very similar. On the whole, the Lauteraarhorn ridge has a higher average difficulty than the Coolin ridge, but has considerably fewer places of outstanding difficulty. The crest of the ridge is fairly firm, although in places it is very thin and tilted at an unnatural angle to one side. Occasionally one meets with rotten shattered sections. Geologically speaking, the ridge has probably no long life in front of it.

This was perhaps the most exhilarating part of the day. The going required care, but we could generally move both together, and we were at last making evident progress towards the summit of the Lauteraarhorn. Even the large pinnacle did not delay us long, and it is always cheering, on surmounting a pinnacle, to be able to call out that the way lies clear to the next one. The last pinnacle, the Lauteraarhorn himself, received us safely at 5.18 p.m. We halted a quarter of an hour and proceeded downwards towards the Klein Lauteraarhorn. About halfway down to the col a prominent rib of rotten rock and scree

abutted on our ridge and showed us an easy, if laborious, route down to the Strahlegg glacier. Here we unroped. The snow-slope on our left was slush above ice and clearly impossible,³ so we had to toil down on rotten rock and scree. There was little conversation, except an occasional word of abuse. Our throats were too dry for conversation, and when we at length reached water lower down, our first remarks were about filthy scree mountains we had known. About this point we had a glissade of about 300 feet, before descending the final steep rocks down to the Strahleggfirn, which we reached about 8 P.M., with the evening colours already in the sky. We were a little tired and very glad to avail ourselves of the convenient steps which a former party had kindly left us on the steep slopes beneath the Strahlegg Pass.

It was fully 9 P.M., and daylight was altogether gone, when we stood on the top of the Pass. A chill wind greeted us, the same we had experienced most of the day, but I asked Smythe gently if this was the sunset-wind now. We stepped forward out of the shadow of the Strahlegghorn into the light of the moon. Before us a billowy sea of cloud filled the valley of the Grindelwald Obereismeer. Above its luminous waves projected the peaks—on the extreme right the dark rock summit of the Eiger, crowned with a small dark cloud; beside him gleamed the snowy slopes of the Mönch, and in front was Klein Fiescherhorn. In great contrast to these was the red granite mass of the Schreckhorn behind us, glowing with a ghostly radiance, such as I remember observing once before on the Langkofel, as seen from the Grödner Thal in moonlight. We were just in the mood to appreciate the prospect, with only downhill slopes and easy ones before us. Soon we were swallowed up in the mist, but there was still moonlight enough for a careful glissade of the last snow-slopes above the hut. It was 9.50 P.M. when we entered and set to work to disturb the peace of the inhabitants with preparations for what turned out to be an excellent repast. After this we smoked the pipe of contentment and would not even have picked a quarrel with the man who had assured us that it took only three hours from the Schrecksattel to the Lauteraarhorn. Our one regret was that the heavy nature of the undertaking had persuaded us to leave the camera behind on what would have been an ideal day for photography.

³ [When this is good snow, as in 1910 and as it probably often is, one descends without hardly touching a rock.]

[The author desires the following note :

'F. S. Smythe, who is a Yorkshire Rambler, is unable to collaborate with me as he has sailed for the Argentine. He has done far more mountaineering than I have, having been several seasons in the Alps and spent two winters in Tirol, doing big ski expeditions. Hence the initiative and most of the snow and ice leadership are his, though, of course, this particular expedition is a rock one.'—EDITORS.]

MOUNTAINEERING CLUB PARTIES IN THE ALPS.

MR. UNNA writes :—'I joined an unofficially arranged party of the Scottish Mountaineering Club at Fafier Alp on July 23. Eight of them had been there for three days and had climbed the Tschingelhorn and Breithorn. The weather was unpromising, and we decided upon a cross-country trip in the direction of Grindelwald. Our chief difficulty was the arrangement for catering for the requirements of so large a party, and J. W. Brown and I spent a whole day in Brigue telephoning and telegraphing in order to arrange for a dump of supplies at Eggishorn and Grimsel. We were surprised to find that it was necessary to get these supplies sent by post from Bern. The Brigue people would have nothing to do with it. The telephone however proved a somewhat unsatisfactory medium for dealing with the lists of articles required, and it transpired, in the end, that the party was forced to exist during this trek upon a diet mainly consisting of beans in various forms. Practice showed that, although satisfying for the time, this form of vegetable has its special drawbacks. We had also to pay very heavily for the conveyance of the parcel from Grimsel to the Dolfus Hut, because the day on which we decided to have the goods forwarded happened to coincide with a *festa* and the porters had to be fetched by motor-car from a Protestant valley.

'Our route led us over the Lötschenlücke, where we spent a night of snowstorm in the Egon von Steiger Hut; then to the Concordia, over the Grünhornlücke, across the Gemslücke, from which point some of the party ascended the Finsteraar-Rothhorn; then on to the Oberaarjoch Hut, which was very overcrowded and excessively cold; from this point the party descended the Oberaar Glacier for a certain distance and then up to the Scheuchzerjoch and down the Tierberg Glacier to the Dolfus Hut on the Unteraar Glacier, where we arrived on July 29 to find only one previous entry in the hut book for that year. From that point we crossed the Strahlegg and descended to Grindelwald. The unusual appearance of so large a party of Britishers wandering about together with no professional attendance seemed to cause great surprise to the Swiss and some



Photo: G. Sang.

LOOKING UP UNTERAARGLETSCHER
from Dollfus Hut.



Photo: G. Sang.

STRAHLEGGFIRN AND PASS.
(Lauteraarhorn on right.)

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consternation to the guiding and portering fraternity. More particularly the taking up of dumps of provisions to the huts seemed to intrigue the Swiss climbers more than considerably, and we heard many comments upon ourselves and our independent ways.

Two of the party (Douglas and Harrison), together with Smythe of the Yorkshire Ramblers, had a very uncomfortable experience on the Schreckhorn, which, mercifully, was unattended by serious results. Smythe and J. H. B. Bell, whom we met at the Strahlegg Hut, had just returned from an expedition in which they traversed the Schreckhorn by the south-west ridge, then the Lauteraarhorn and down to the Strahleggfirn, returning to the hut over the Strahlegg Pass. As Bell had damaged his leg, Smythe joined Douglas and Harrison, and starting very early they ascended the S.W. ridge of the Schreckhorn. The weather, from the start, looked more than doubtful, and they were surprised by the extraordinary green tinge in the sunrise. They admitted that it boded no good, but pressed on in the hope of being able to get their peak and return before the storm broke. About 8 o'clock, however, things looked much worse, and after sheltering from a sharp snowstorm for half an hour, they turned about 500 ft. from the summit. A second storm cloud which they saw gathering to windward approached with alarming rapidity, and on their way down Smythe was knocked over by lightning at a point somewhere about 1000 ft. below the summit. Fortunately he was supported by the belay over which the rope had been passed, and beyond a few bruises he was undamaged, and the party managed to retrace their steps, regaining the hut at 4.30 P.M. At Grindelwald the others awaited their arrival with considerable anxiety, and it was with great relief that they were observed walking into the hotel next morning.

Rusk and two other S.M.C. men turned up a few hours later, having carried their camp equipment over the Mönchjoch in a snowstorm. They had experienced some difficulty in negotiating the intricacies of the Bergli route. At this stage (August 1), the weather giving the appearance of utter breakdown, the party disbanded, and Ling, Brown and I took refuge in the more salubrious climate of the Italian valleys.

THE CLIMBERS' CLUB held an Alpine meeting in the Valley of Chamonix last July. The meeting was under the management of Mr. H. R. C. Carr, and nineteen members and their friends (of whom four were ladies) attended. One of the objects of the meet was to enable young mountaineers to embark on an Alpine career under experienced leadership; only six of those attending had had any previous experience in the Alps. The weather during the fortnight allotted to the meet was very fair, and a creditable programme was carried out—twelve out of the nineteen succeeded in ascending the Mont Blanc, ten of them in amateur parties. Perhaps the most enjoyable tour was that organised to the Col du

Géant and the Torino hut, where the party numbered eighteen, a number which overtaxed the resources of the establishment. The services of Franz Josef Biner of St. Niklaus, the only professional employed, were of great value, and were highly appreciated by all. The following were among the ascents made :

Mt. Blanc traverse from the Torino, including traverse of the Mt. Maudit from the Col Maudit (H. R. C. C. and three others) ; Mt. Blanc by the Grands Mulets ; Aiguille du Midi ; Tour Ronde ; Grands Charmoz ; Aiguille de l'M ; Aiguille Javelle ; Col du Chardonnet, Fenêtre de Saleinaz and Col du Tour ; La Floriaz ; Aig. de la Persévérance, de l'Encrenaz, and Crochue.

A party of a dozen members of the *Appalachian Mountain Club*, with Mr. Herbert Carr, did, later in July, the High Level Route from Chamonix to Zermatt.

THE FIRST ASCENT OF MT. KING EDWARD, CANADIAN
ROCKIES, WITH A NOTE ON MT. ALBERTA.

By HOWARD PALMER.

ALTHOUGH our climb of Mt. King Edward cannot be rated very highly as a mountaineering feat, I contemplate it, nevertheless, with a good deal of satisfaction. In the first place, Dr. J. W. A. Hickson and I had managed, after several fruitless attempts in as many years, to bring our programs into conjunction for a three weeks' campaign, and this was the initial peak to fall to our lot. Then, I had attacked it four years before in company with Mr. Allen Carpe, only to be repulsed a few hundred feet below the summit by a combination of circumstances beyond our control. And finally, because perfect weather, and wonderful prospects, united to stamp the day as a memorable one—well worthy to be entered in that gallery of famous days which every mountaineer cherishes in his inmost soul.

The peak adjoins Mt. Columbia, being situated a little over three miles distant from it to the W., and rising to an elevation of 11,400 ft. It is also on the Continental Divide. (For maps, see A.J.' xxxvi. 94 ; and sheet No. 23 of the Inter-provincial Boundary Survey.¹) The two peaks constitute the

¹ Issued with A.J. xxxv. For a general view of these mountains see plate opposite page 184 of that volume. Mt. Stutfield is wrongly marked on the panorama. The name should be transferred to the next peak to the right.

southerly wall of the immense amphitheatre in which the Athabaska takes its source. To the N. and E. stand Alberta, Stutfield, and The Twins, all over 11,000 ft., while directly E. is the heart of the Columbia névé, which, with its sixteen effluent ice-tongues, occupies an area of more than eighty square miles. Towards the W. the mountains are lower and they exhibit fewer well-defined peaks, although supporting extensive snowfields. The actual source of the Athabaska is the five-mile Columbia glacier which drains the easterly and northerly slopes of that mountain. From here the river flows in a north-westerly direction to Jasper on the Canadian National Railways—a distance of about sixty miles in a direct line.

We arrived at the base of Mt. King Edward on the morning of August 10, 1924, after four days of constant travelling. The pack-train of fourteen horses, with two men and a cook, was supplied us by Otto Brothers of Jasper. Conrad Kain came with us as guide. Over the first half of the journey the trail is excellent, but beyond the Sun Wapta bridge it is often rough, boggy, and obstructed by wind-falls. The last ten miles lie over open gravel flats, where the river splits into several channels and frequent fords must be made. The scenery is attractive and interesting all the way, although comparatively little snow and ice is in view. Horse-feed is scarce and scanty in the upper valley, so that the few visitors who have ever penetrated thither soon departed. Our party of 1920 was the first to come with any serious intentions regarding mountaineering, although in the preceding year the Boundary Survey, under the guidance of Conrad Kain, had occupied a couple of stations on the W. side of the valley, and Jean Habel of Berlin in 1901 had scrambled to 6700 ft. on the flanks of a nameless peak adjoining King Edward on the W. As far as is known, he was the pioneer hereabouts, and his remarkable expedition (described in 'Appalachia,' vol. x. pp. 28–43) is of great historical interest in connexion with this whole region.²

The peak of King Edward is really tent-shaped, but this impression is not communicated to the approaching traveller, who sees the long ridge end-on as a sharp point, to which a

² The only other parties known to have visited the upper Athabaska valley are the following: Mrs. M. Shaffer (1907), B. Mitchell and H. Bryant (1916), the Boundary Survey (1919), A. Carpe and H. Palmer (1920), J. W. A. Hickson and H. Palmer (1924), B. Harmon and L. Freeman (1924), Y. Maki and friends (1925).

confusion of jagged arêtes, subsidiary summits, and pocket glaciers lead up. The *massif* fills almost four miles of the sky-line, rising to a height of 6400 ft. above the valley. It dwarfs Columbia itself in bulk, but the graceful symmetry of the latter keeps beguiling the eye, so that the true grandeur of the former is not immediately appreciated.

All of this was absorbed with keen delight while we wended our way across the gravel flats, brilliant with the warm sunshine of an ideal summer day. Columbia gradually disappeared behind the lower hills as we penetrated the western branch valley beneath King Edward, but to the rear such a splendid spectacle of Alberta developed that its eclipse was scarcely noticed. Strangely enough, this is the only part of the march where Alberta can be seen at all adequately from the valley. We continued two miles and a half beyond our camp ground of 1920 to a tiny, timbered flat beside the lateral torrent from King Edward glacier, discovered at that time. Here we established a comfortable camp—elevation 5000 ft. All the horses returned to the last feed, six miles down the valley, in charge of two men, leaving the three climbers and cook to their own devices. The men were to come back for us on the third day.

We arose at 3.30 A.M. on August 11, weather indications being favourable except for a warm temperature and a somewhat smoky atmosphere. At 5.1 we were off, striking straight up the stony gully along the torrent. In an hour we came out into the open space below the terminal moraine, having risen 800 ft. The smoke had now become so dense that the cameras were deposited under a stone as a useless burden. After halting briefly, the march was continued directly up the moraine-covered glacier tongue, steep at first, but gradually flattening out into a terrace clear of snow, beyond which the main ice-fall of the glacier rises. This occupies the full width of the valley, but towards King Edward it is submerged beneath a sizeable tongue of snow that affords a steep, but perfectly satisfactory, means of passing it. We cut steps up to the bergschrund and along its lower lip to the right, exactly as Carpe and I had done in 1920, the conditions being identical with those we had encountered at that time. A few marginal crevasses were negotiated, and then we found ourselves on the névé of the upper basin, where we paused for a second breakfast at 8.30, having made 3200 ft. in altitude.

At this point a brief digression may be permitted to dispose of the attempt of 1920. Carpe and I struck directly up the

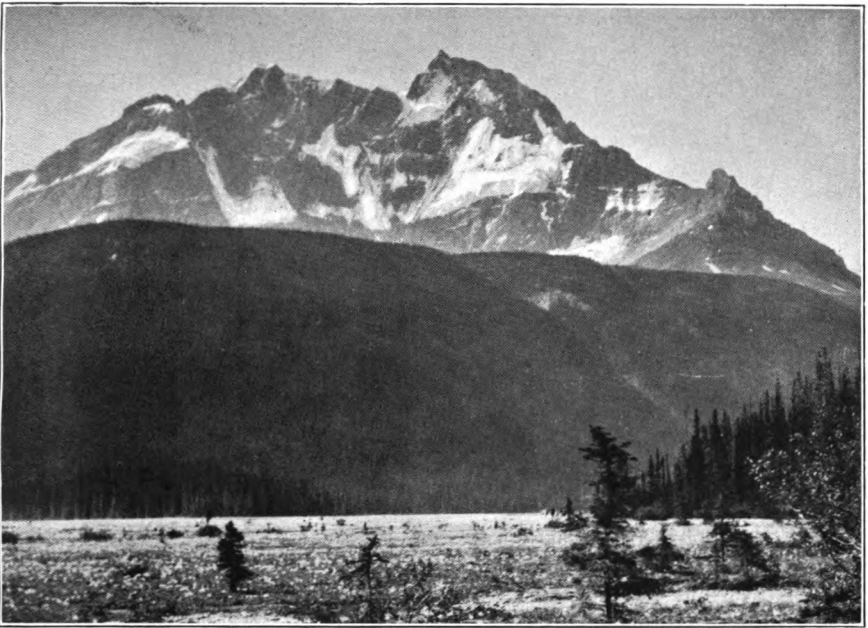


Photo: Howard Palmer.

MT. KING EDWARD
from the flats of the Athabaska.



Photo: Howard Palmer.

BASE CAMP BELOW MT. KING EDWARD,
looking E. towards The Twins.



Photo: Howard Palmer.

MT. COLUMBIA (12,300 ft.), N. FACE,
from the tongue of the Columbia glacier.



Photo: Howard Palmer.

MT. ALBERTA (11,875 ft.),
from the S.W.

broken face along the line of a massive rib, or buttress. The general lay of the strata was against us, like a flight of stairs leaning sideways, but the angle, nevertheless, just permitted one to walk flat-footed up the smooth rock. After four hours of it we gained the place where the buttress merged into the upper face of the peak. The repellent summit cap reared itself directly overhead and bade fair to involve difficult work. A traverse to the S. ridge looked perfectly feasible, scarcely more than a walk, in fact, but the melting of a hot afternoon was sending down showers of stones across that part of the face. It was already 4 o'clock, the days are short in late August, the greatest obstacles lurked in that 800 ft. cliff above us—clearly the only prudent thing was to go down, and in the end this was reluctantly done. The sequel showed that we turned not a moment too soon, for we emerged from the forest on the open flats as the last light departed, found our bridge washed away, and had to make a somewhat dangerous ford through the waist-high raging flood of the main river. Camp was regained at 9 P.M., after an absence of nearly fifteen hours and a climb of some 6000 ft. The distance covered was about ten miles. Such are the difficulties of pioneering in unmapped country. When one does not know what is ahead, adequate plans cannot be formulated in advance. Our camp was too far away from our goal, and on the wrong side of the river, but only an actual trial could demonstrate the fact.

In 1924 we profited by this experience and, as a result, were already some four hours ahead of the 1920 schedule. It was our present plan to pass around the base of the peak on the snow to the S.-W. ridge and southerly face, where doubtless a satisfactory route could be devised. An hour and a half later we had accomplished this successfully and had gained the rocks at an elevation of about 9000 ft. We found that the whole face of the mountain was composed of slabs steeply tilted towards the S., and covered thinly with small rolling stones, or scree. At several places they were difficult, the holds being all against one. Ascending the scree proved to be laborious in the extreme, as it was loose and rested at just the angle of repose. Three hours and a half of monotonous work it took to bring us to the base of the summit cap—a bulging cliff of black rock, in appearance not at all propitious to the would-be climber. Here, fortunately, we came upon water—a great boon in our thirsty state—so a halt and refreshment were at once decreed.

Upon resuming the advance we decided to traverse around

the S.-E. arête in order to see what the E. face looked like. In doing this we passed directly through a narrow fissure in the arête, and beyond Conrad discovered a broken vertical chimney, perhaps 100 ft. high. This pierced the cliff-belt and gave access to a slope of closely packed scree which led us to the S. peak at 4.15. Several pitches of the chimney afforded stiff climbing. A second peak terminates the narrow ridge at the N., but this is only 11,320 ft. according to the Boundary Survey.

The smoky pall of the early morning had now vanished, and a splendid panorama lay outspread before us. My camera—the inseparable companion of nearly every major climb—was now keenly missed, the more so because no one else had brought one. Mts. Columbia and Bryce were easily the most impressive features of the view. The southerly arête of the former resembled a palisade. It is slate-coloured rock of vertical structure, and descends right to the bottom of the Bush valley, cutting off the intervening glacier very definitely from the Columbia névé, although indeed a little ice from this does overflow the wall. No doubt Mt. Columbia could be ascended directly from the saddle on this side, but it would involve careful work towards the top. Further, there appears to be no good way of gaining the saddle from the valley. On the N. side it is guarded by bands of ice cliffs, and while an approach through the glacial pass W. of King Edward and a traverse around the latter on the snowfield to the S. are doubtless feasible, the route would be a long one (seven miles each way).

Mt. Bryce (11,500 ft.) presented a magnificent spectacle, despite its distance of nearly twelve miles. It is really a minor range by itself, jutting out laterally from the Columbia névé. On this, at the western extremity, the main peak is superimposed, a snowy cone to which all lines converge in the grandest manner possible. This peak and Mt. Alberta (11,875 ft.) are, all things considered, probably to be classified as the premier climbs of the range. Turning to the N., Alberta stood up straight and forbidding—fully revealed—a grim-visaged 'peak of terror.' The ancients would have found it an admirable model for the Tower of Babel—a terraced pyramid capped with a thin vertical comb 1800 ft. high. Quite the reverse in aspect was the confused, flattish *massif* of the Twins. It lacked individuality, and appeared rather in the guise of a giant buttress for the Columbia névé, whose snowy domes bounded the horizon on that side. Clemenceau loomed in the distance to the W.—an imposing if somewhat shapeless shadow. The extensive ice-fields in this direction are curiously concealed



Photo: Howard Palmer.

MT. QUINCY
from confluence of the Athabaska and Chaba Rivers.



Photo: W. O. Field.

N.E. FACE OF KING EDWARD
from summit of North Twin.

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by a maze of ridges, so that the unknowing spectator would never suspect their existence. Other distant landmarks noted were Sir Sandford and the Adamant group in the Selkirks, and Forbes and Whiterose in the main range. To the N.-W. Hooker, Serenity, and Fryatt stood out distinctly.

Having built a small cairn and deposited a record, we commenced the descent at 5 o'clock. Half an hour was consumed in descending the chimney, after which we unroped and took a different line down the south-easterly ridge. The beds of scree here were deeper and permitted of famous speed, so that we arrived at a brow of cliff overlooking the glacier in two hours and twenty minutes from the top. Here we roped for a traverse of some awkward slabs that gave access to a snow slope where Conrad cut a line of steps. Thus we gained the *névé*.

The rest of the way was easy, allowing full opportunity for enjoyment of a gorgeous sunset with splendid cloud effects tinted in delicate pastel shades by a smoky atmosphere. Darkness overtook us in the chaos of the terminal moraine, but Conrad's uncanny skill soon disclosed the lantern left there in the morning, and with its aid we groped our way down the boulder-strewn gorge through the forest. At 11.40 p.m. we reached camp, where the cook was aroused from deep slumber and a hot meal soon prepared. We had been on the go for some eighteen hours.

A word may be acceptable at this point concerning the general scope of our plans. Our chief objective in coming to the headwaters of the Athabaska was to reconnoitre and attempt Mt. Alberta, about which, as a mountaineering problem, almost nothing was known. My earlier visit here had indicated that the best line of attack would be from the upper valley of Habel creek,³ a lateral affluent of the Athabaska, which promised to give access to the E. face of the peak as well as to supply a suitably lofty camping place, without which, of course, nothing could be done. The W. face as seen from the Athabaska valley does not offer any inducement for an attempt. As there was no trail up Habel creek one had to be made, and it was primarily

³ Habel Creek joins the Athabaska Valley from the E. and can be seen in the upper panorama *A.J.* xxxv, opp. 184 in the extreme left below Mt. Alberta.

to give an opportunity for this that we had moved on past the mountain to spend a few days in the upper valley.

King Edward was undertaken partly as a training climb and partly as a reconnaissance of the approaches to Mt. Columbia from this direction. It would be a matter of considerable mountaineering interest if a good route to Columbia could be opened up directly from the Athabaska valley. We had satisfied ourselves that the way around the back of King Edward was too long to try until it had been demonstrated that no better one could be discovered. The next thing in order, therefore, was to move to the E. valley and examine the possibilities there.

Accordingly, after a day of luxurious idleness, the horses having put in an appearance, we transferred the camp to a point half a mile below the tongue of the Columbia glacier on the N. side of the valley.⁴ The practical difficulty of effecting even such a minor movement as this is typical of the obstacles which seem to beset the traveller hereabouts to an unusual degree. By previous arrangement the animals came nearly six miles to get us ; they shifted the party four and a half miles, and then, no feed being found there, they were compelled to return another five miles to their starting-point. Riding-horses as well as pack-horses were needed, for so numerous and so swift are the streams which course along the gravel flats that a man on foot is almost helpless. They weave back and forth from one side of the valley to the other, and at the end of the day usually overflow their banks. For the same reason, camp must be established with especial regard to each climb contemplated—all of which constitute rather heavy impediments to mountaineering.

On August 14, a magnificent day, we made an excursion four miles up the Columbia glacier, which Carpe and the writer were doubtless the first to traverse in 1920. The start was an early one, with a lantern, for we wished to be in a position to take advantage of any opening that might develop for a climb of one of the higher peaks. We arrived at the foot of the ice-fall at seven, after an easy march of three and a quarter hours. It was exceedingly steep and overhung with all kinds of crazy towers ready to fall. Even with the certain knowledge that one could reach the Columbia névé through the maze of crevasses behind the crest, its ascent would have been foolhardy

⁴ See Sheet 23 of Interprov. Boundary Survey issued with *A.J.* xxxv.

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Photo: Howard Palmer.

THE NORTH CLIFFS OF THE NORTH TWIN,
above Habel Creek.



Photo: Howard Palmer.

NORTH TWIN (left)
across Habel Creek Valley, and
SOUTH TWIN (right)
from the N.W.

to attempt. Lacking this, the question did not even permit of debate. All the N. side of Mt. Columbia we found to be guarded by impregnable cliffs, raked by ice-falls from bands of active hanging glaciers. At most points there were two bands with an ice terrace between. The mountain appears entirely inaccessible from this direction.⁵ We traversed along the base of the cascade through a sort of valley in the ice and then retreated to a safe place on the medial moraine for breakfast.

We studied the N. side of the valley towards The Twins,⁶ but in this quarter as well the cliffs are capped with continuous ice walls, which discharge with more or less frequency into the valley. Thus, throughout their entire sweep of ten miles from Columbia to The Twins, the rock walls, with their icy coping, are of the most formidable character. At one point only did we note an opening that appeared worth trying. It was in connexion with The Twins, but when we discovered it, the day was too far spent to put it to the test, for even this would involve an expedition of eight miles each way from camp.

Next morning, when we turned out early to attempt it, the weather had broken, so it seemed the part of wisdom to take advantage of the unsettled conditions to retreat to Alberta and establish ourselves in Habel creek, which our head packer, MacDougal, now reported was open. Accordingly, we sent for the horses, and during the afternoon retired to the permanent camp at the mouth of the creek. On the 16th we advanced up the new trail, preceded by four led pack-horses. The way was very rough, and in crossing one of the precipitous cut-banks, a pack-horse lost his footing and rolled down into the torrent, fortunately without injury to himself or damage to his burden.

After two hours and a half, a high wall of terminal moraine blocked all further progress for horses, so we set up the tents on an open flat at its base. We had risen about 850 ft. above the main valley, our altitude being 5550 ft. Habel creek flows through a narrow gorge which cuts back between The North Twin and Alberta. The latter we could not see owing to a cliffy step in the slope on that side, down which a sizeable waterfall dashed, but The North Twin and Mt. Stutfield were imposingly revealed, buttressed with smooth cliffs and rocky towers. After our camp was settled, the packer-guides went back to the lower camp with the horses, the understanding

⁵ For a view of this face of Mt. Columbia, see *A.J.* xxxv, opp. 194.

⁶ See *Panorama A.J.* xxxv, opp. 184.

being that they were to come up for us on the morning of the sixth day.

We were greatly pleased at our success in attaining such a favourable camp ground. It was ideally situated with respect to Alberta, and it commanded capital views of the glaciers and precipices to the S. Unfortunately, our satisfaction was but short-lived, for the weather simply would not mend its ways. Rain fell steadily all the afternoon of our arrival and all that night, with much new snow on the peaks. Intermittent showers held us prisoners in camp on the next two days. On the third, some improvement manifested itself about 10 o'clock, so we ascended the cliffs by the waterfall in the hope of catching a glimpse of the peak of Alberta, but though we spent the entire afternoon in a delightful meadow (6800 ft.) near its brink, in full view of our goal, not a single break occurred in the dense curtain of mist which completely buried the last 1500 ft. of the mountain. We saw, however, that this route was the way to attack Alberta, that the meadow would afford a splendid place for a bivouac, and that it would be easy to reach a flattish glacier which filled all the area between Alberta and Mt. Woolley in the background.⁷

The fourth day was ushered in with lowering skies, but in sheer desperation we again ascended to the meadow with the intention of crossing the glacier to Mt. Woolley (11,170 ft.) if conditions permitted. After a cold storm had delayed us here an hour, we forced a way up some steep cliffs (good rock climbing) just W. of the small canyon that drains the glacier, attained the ice, and advanced some distance towards Mt. Woolley, which did not look at all difficult. However, the clouds began to close in again and the hour was after 2 o'clock. We could not complete the ascent and get back to camp that night; this in turn would spoil our chances for Alberta should the weather clear, so there was nothing for it but to seek some more modest goal.

This we found in the nameless mountain which bounds the glacier tongue on the E. Rising in a relatively thin wall, the side towards the ice presents several belts of steep cliffs seamed with couloirs, amongst which Conrad assured us some expert rock-climbing practice could be had, so we directed our steps thither. His prediction was fulfilled. Ascending straight up from the glacier, we encountered a pair of chimneys which gave

⁷ See illustrations in 'New Expeditions' in this number and panorama *A.J.* xxxv, opp. 184.

us a real tussle. In one, two chock stones with overhanging noses blocked the way. The higher, a slab 25 by 8 ft., with slimy holds beneath, evoked some active gymnastics before it yielded. Above, we finally emerged on scree and broken blocks, which took us to the summit crest midway between the two peaks, at 5.30, in a driving snowstorm. Clouds were thick everywhere, and we saw Alberta not at all. We traversed the whole ridge, finally descending to the waterfall by the southerly slopes. The S. peak is the higher by a few feet, the elevation being 9700. A small cairn was erected on each peak. We had, at various times, good views to the N., E., and S., as well as straight down the exceedingly steep easterly face.⁸ Darkness overtook us near the waterfall, and having omitted to bring a lantern, camp was not regained until 9.30.

The basin at the head of Habel creek is of exceptional interest. It is one of the few places in this land of spacious distances where a goodly number of worthwhile peaks are accessible from a single central camp. Half a dozen at least stand close at hand, and they are of all grades of difficulty; only, of course, one must have settled weather or nothing can be done.

This was the only climb which we could make, as the following day did not bring any improvement. On the 22nd, according to schedule, the horses came for us. Deep, new snow covered all the high peaks. It would take more time than we had provisions for to await the return of climbing weather. Accordingly, we commenced the return march to Jasper, abysmally dejected, since our stay had not vouchsafed so much as a glimpse of the top of Alberta, and we were even deprived of the privilege of making the first attempt upon it, although we had opened up the proper way.

On two occasions during the return journey we arose early, in the hope of improving our fortunes by the capture of a lesser peak, but even this consolation was denied us, rain-storms and high winds buffeting us all the way. In fact, after arriving at Jasper on August 25, the weather remained unsettled through the balance of the month, and our season closed in the deepest gloom. Excepting Jupiter Pluvius, everything had been splendid—horses, men, supplies, and companions; but when storms hold sway on the heights, then life even in the mountains becomes stale, flat, and unprofitable, and one wishes one's self elsewhere.

⁸ The Japanese party referred to in the note following dubbed this peak 'Little Alberta.'

THE FIRST ASCENT OF MT. ALBERTA.

Note.—Since the above paper was written, news has been received of the successful ascent of Mt. Alberta on July 21, 1925. Six Japanese, under the leadership of Mr. Yuko Maki, with the Swiss guides, Heinrich Fuhrer, and Hans Kohler of Meiringen, and a Swiss amateur named Weber, composed the climbing party. Mr. Maki is one of the officials of the Japanese Alpine Club, and his companions are prominent in the Ski Club of Japan, where they have had much experience with spring snow conditions among the Japanese alps. Mr. Maki is known among mountaineers for his splendid ascent of the Eiger by the Mittellegi arête in 1921. (See 'A.J.' xxxiv. 166-7.) They came from Japan with the express purpose of attempting Mt. Alberta, and were completely equipped with pitons, silk rope, rock-climbing paraphernalia, moving-picture cameras, etc. Obtaining full information about the mountain in Jasper, they engaged five packer-guides and forty horses to take the expedition in. They were in the field for twenty-five days, accomplishing also the first ascent of Mt. Woolley.

Their route of approach was exactly that described in the foregoing paper, the base camp being established in Habel creek, and their high camp in the meadow above mentioned. Leaving the bivouac at 3.30 A.M., they attained the summit by way of the south-easterly slopes and the central E. face at 7.30 P.M. The entire party of nine spent the night on the summit ridge at about 11,000 ft. Fortunately the night was warm and fine. The descent was resumed at 5.30 A.M. and consumed the whole day, the bivouac being regained at 9.30 P.M. and the base camp on the morning of the fourth day.

The party reports that the peak was excessively steep, with much loose rock and falling stones, several of the men sustaining minor hits. Four pitons were employed in roping off on the way down. An ice-axe was planted in a cairn on the summit.

They are to be congratulated upon their good fortune in snatching a victory when this austere peak was off guard. And this can be said without the least reflection upon the admirable work performed, for one has but to visualise the critical situation that would have arisen had rain or snow fallen during the night of their vigil on the summit ridge. Their reliance upon the extraordinarily dry, warm weather of last July was not misplaced.

This noteworthy ascent is of especial interest in that it marks the closing of the era of major virgin peaks in the main range of the Canadian Rockies. Of those rising above 11,000 ft., only a bare handful now remain to tempt the climber away from the more or less beaten paths.

H. P.

SIDE-VALLEYS AND PEAKS OF THE YELLOWHEAD TRAIL.*

BY J. MONROE THORINGTON, M.D.

(Continued from p. 59.)

(b) TONQUIN VALLEY AND THE RAMPARTS.

VISITORS to Jasper Park, in the Rockies of Canada, are invariably advised to visit Tonquin Valley. Much has been written of its spectacular scenery¹—its unique combination of lake, precipice, and ice—which presents itself with a singular beauty almost unequalled in alpine regions of North America. From high peaks of the Whirlpool we had glimpsed its towers and glaciers in the north, and had looked into misty, forested valleys at Fraser head-waters. We knew that Simon Peak, the highest elevation of Mt. Fraser and the loftiest summit of the Divide between Fortress Lake and Yellowhead Pass, had yet to be climbed. And so we went.

The Indians believed that Jasper Park was the lurking-place of prehistoric monsters. David Thompson, journeying through in 1811, knew of this superstition, as he mentions²: 'Continuing our journey in the afternoon we came on the track of a large animal, the snow about six inches deep on the ice; I measured it; four large toes each of four inches in length, to each a short

* The maps opposite pages 320 and 342 of vol. xxxvi. may suffice for this article, but the full sheets 26, 27, and 28 of the Inter-provincial Survey may be obtained on application to the Surveyor-General, Ottawa.

¹ See especially *C.A.J.* x. p. 70. The scenic features are well illustrated in *A.J.* xxxvi. 342, 'First Ascents of Mt. Barbican, 10,100 ft., and of Mt. Geikie, 10,854 ft.,' Val A. Fynn. See also *Description of and Guide to Jasper Park* (edited by E. Deville, Department of the Interior, Ottawa, 1917).

² *Thompson's Narrative of his Explorations in Western America, 1784-1812* (The Champlain Society, Toronto, 1916), p. 445.

claw ; the ball of the foot sunk three inches lower than the toes ; the hinder part of the foot did not mark well, the length fourteen inches, by eight inches in breadth, walking from north to south, and having passed about six hours. We were in no humour to follow him : the men and Indians would have it to be a young mammoth, and I held it to be the track of a large old grizzled bear ; yet the shortness of the nails, the ball of the foot, and its great size was not that of a bear, otherwise that of a very large old bear, his claws worn away ; this the Indians would not allow.'

We ourselves never came in contact with this unclassified beast, although we had looked for it throughout our journey to the Mountains of the Whirlpool.³ It was when we arrived in Tonquin Valley—Ostheimer, Strumia, Conrad Kain, and I—that we located the solution of the mystery : the Ramparts themselves. When one sees that range, curving in sinuous, unbroken length, with spaced peaks like vertebral spines age-old and worn, it takes but little imagination to think of it as the dorsal skeleton of some gigantic creature of ages past. It is the glacier dragon of the Middle Ages turned to stone. In reality it forms a part of the backbone of a continent, for it is situated on the main Divide ; and, best of all, it is easily accessible.

The Athabaska is an important river even to its very sources. It was not far from Jasper House that David Douglas, in the spring of 1827, met the philosophical old guide Jacques Cardinal⁴ who, observing that he had no spirit to offer, turned towards the river and said ' This is my barrel and it is always running.' The Athabaska flows from two important passes of the Divide : Athabaska itself, and Yellowhead. The Athabaska Pass we already knew, and a portion of the Yellowhead route was to be followed on our way over the Meadow Creek trail to Tonquin.

The pass of Yellowhead, in the old days, was the gateway to the settlements of New Caledonia, as British Columbia was then known. It assumed importance a few years after the lower reaches of its great western river had been explored by Simon Fraser, Jules Quesnel, and John Stuart, in 1808. The fur traffic through the pass had become so extensive that about 1820 the pass was commonly known as Leather Pass. Then

³ *A.J.* vol. xxxvi., no. 229, p. 299.

⁴ *Douglas' Journal*, 1823-1827 (Royal Horticultural Society, London, 1914), pp. 73, 261.

came the gold rushes to Cariboo in 1861 and 1862, when the pass was used by crowds of adventurers on their way to the North Thompson River. Among the earliest travellers who came through Yellowhead, bound for the North Thompson and Kamloops, were Viscount Milton and Dr. Cheadle, in the summer of 1863. Accompanied by the wandering eccentric, Eugene O'Beirne—the mysterious Mr. O'B.—and a one-armed Assiniboine guide with his courageous squaw, these gentlemen were the first to describe Mt. Robson and, indeed, much of the Yellowhead region. Their book, 'The North-West Passage by Land,' among many amusing and interesting things, relates their dramatic discovery of the Headless Indian, who, no doubt, perished on the way to Cariboo.

The story ⁵ and its sequel are worth re-telling: 'The corpse was in a sitting posture, with the legs crossed, bending forward over the ashes of a miserable fire of small sticks. The ghastly figure was headless, and the cervical vertebrae projected dry and bare; the skin, brown and shrivelled, stretched like parchment tightly over the bony framework, so that the ribs showed through distinctly prominent; the cavity of the chest and abdomen was filled with the exuvia of chrysales, and the arms and legs resembled those of a mummy. The clothes, consisting of a woollen shirt and leggings, with a tattered blanket, still hung around the shrunken form.' Nine years later, in 1872, several hundred yards up the bank of the river, the head was found by members of the T. Party, Canadian Pacific Survey. They buried the head with the body; but it was exhumed later in the year by Dr. Moren, of Sandford Fleming's Pacific Expedition. The skull, placed in the Canadian Pacific offices in Ottawa, was destroyed by fire in 1873.

Poor old Shuswap cranium; what a wandering career it had! But since we ourselves were starting out on the Yellowhead trail, it is scarcely to be wondered at that our own heads were filled with thoughts of these strange events that transpired within the memories of our fathers.

Jasper was our starting-point for Tonquin Valley; and, on the morning of July 11, the day immediately following our return from Athabaska Pass, we headed the pack-train westward into Miette Valley toward Yellowhead. An Iroquois hunter was this Tête Jaune, whose original cache was not at the station of the Canadian National now bearing his name, but at

⁵ *The North-West Passage by Land*, Milton and Cheadle (Cassell, Petter, and Galpin; first edition, London, 1865), p. 296.

the mouth of the Grand Fork of the Fraser. And there he hid the furs he obtained on the western slope before bringing them to Jasper. On the day of our starting, furs would have been as useless as skis; we were riding with as little clothing as possible, and the sun beat down unmercifully. Worst of all, when we wanted a drink we had to scramble down the steep bank to the river. Still we were in no danger of having a recurrence of the sad misfortune which befell Sandford Fleming⁶: 'The Chief's bag got a crush against a rock, and his flask, that held a drop of brandy carefully preserved for the next plum-pudding, was broken. It was hard, but on an expedition like this the most serious losses are taken calmly and soon forgotten.' We should have been less philosophical; but now sagging low in our saddles, with dust of the trail rising in a golden cloud and obscuring all but the heads and packs of horses behind us—with water close at hand, we were just too downright lazy to climb down and get it. Still this was our third consecutive day of long riding, and we felt that our lethargy was excusable.

We had looked backward to Mt. Edith Cavell—'La Montagne de la grand traverse,' as it was known to the voyageurs—southward and closing the Athabaska Valley with a face 'so white with snow that it looked like a sheet suspended from the heavens.' It was hidden as we crossed an old trestle above the sparkling Miette and the horses plodded on beyond. We eventually came near to Geikie station, where begins the trail up Meadow Creek, cut out by the park rangers in 1922. A beautifully engineered affair, it rises at first in breathlessly steep zigzags and curves for a thousand feet above the Miette to an upper forested level that swings into the side-hill beyond a canyon in the creek bottom. Snow peaks are seen across the valley, a brilliant little group centred about Mt. Majestic; we gazed upon them first from the base of Roche Noire, and the horses splashed through a stream near the mouth of Crescent Creek. A few minutes later we climbed again to higher slopes, where the trail leaves the darkness of mossy nooks and giant trees, and emerges in thinning timber to willow meadows near Tonquin Hill. From camp beside a gurgling brook we gazed out to the northern outposts of the Ramparts—Bastion, Turret, and Geikie—fantastic wedges and pinnacles, tinged with the metallic glow of light through the western passes.

⁶ *Ocean to Ocean, Sandford Fleming's Expedition*, G. M. Grant (Campbell & Son, Toronto, 1873), p. 230.

The Rampart Group forms the chief mountain uplift of the Continental Divide between Athabaska and Yellowhead Passes. Its western slopes are drained by the head of Fraser River and its tributary creeks, Geikie and Tonquin. On the east, Simon Creek, Astoria River, Maccarib and Meadow Creeks flow into the Athabaska system.

Following the Divide northward from Whirlpool Pass (5936 ft.), the first peaks of any importance form the western wall of the basin in which a number of glaciers converge, like wheel-spokes, at the head of Simon Creek—the 'North Whirlpool.' These peaks are Whitecrow (9288 ft.), Blackrock (9580 ft.), Mastodon (9800 ft.), and Scarp (9900 ft.). All are attractive rocky summits, with long radiating ridges and interconnected snow-fields. Just east of the Divide, Needle Peak (9668 ft.) rises as a slender flake of rock, with broad base flanking the mouth of Simon Creek. The best approach to these peaks is by way of Whirlpool River.

At the head of Simon Creek the Divide rises to Mt. Fraser, the culminating elevation of the group, and over its three peaks—Simon (10,899 ft.), McDonell (10,776 ft.), and Bennington (10,726 ft.)—to the rampart-wall of aiguilles beyond.

The Fraser Glacier, on the south-east side of the Fraser massif, occupies a pass between the head of Astoria River and the 'North Whirlpool,' Simon and Mastodon Glaciers forming the chief sources of Simon Creek, although a tongue from the Fraser Glacier also enters its head-water. The main drainage from the Fraser Glacier, however, is into Astoria River.

South-eastward from the Fraser névé there extends an interesting and unvisited group of peaks bounding the Eremite Glacier cirque. These peaks are Outpost, Erebus⁷ (10,234 ft.), Eremite (9500 ft.), Alcove, and Angle, all of them lying in Alberta.

From Mt. Fraser the Divide circles over the sheer wall of the Ramparts—Paragon (9800 ft.), Dungeon (10,000 ft.), Redoubt (10,200 ft.), and Bastion (9812 ft.)—dropping abruptly to Tonquin Pass (6393 ft.), the crest of the range then swinging westward into British Columbia and supporting the precipitous

⁷ *Appal.* xvi. 97. In 1924 Messrs. Coolidge, Higginson, and Johnson, with Alfred Streich, made first ascents of Erebus, Oldhorn, and the unnamed rock peak south of, and adjacent to, Paragon. They also made the first complete traverse of Mt. Cavell over the east arête. See, however, *Corrigenda*, p. 421.

trio : Turret (10,200 ft.), Geikie (10,854 ft.), and Barbican (10,100 ft.).

The head-waters of Astoria River are derived in part from Chrome Lake, into which flow rushing streams from the Eremite and Fraser Glaciers ; but a somewhat larger creek rises in the Amethyst Lakes, two lovely bodies of water closely connected with one another and lying close below the stupendous east wall of the Ramparts.

Moat Lake is finely situated in the eastern hollow of Tonquin Pass and sends a stream to join with a northern outflow from Amethyst Lakes ; and, in an expanse of willow-covered, marshy ground, drains both to Meadow and Maccarib Creeks.

In the western cirque of the Ramparts, glaciers streaming from Mt. Fraser drain to Geikie Creek. Scarp and Casemate Glaciers slope off abruptly to Icefall Lake ; while the long, winding Bennington Glacier is separated from them by the jagged rock arête extending N.W. from Simon Peak and supporting the dark towers of Casemate (10,160 ft.) and Postern (9720 ft.).

Although Mt. Edith Cavell (11,033 ft.), in the central part of Jasper Park, just W. of the Whirlpool-Athabaska junction, had been ascended as long ago as 1915,⁸ no climbing party had attained a summit on the Continental Divide in this area until 1919, when Messrs. Carpe, Chapman, and Palmer, from camp ground at the southern end of Amethyst Lakes, made the first ascent of McDonell ; and, later, Carpe and Palmer, of Paragon.⁹ They were the first to look over this ' Rampart ' wall and to see the impressive southerly faces of Geikie, Turret, and Bastion ; with the Bennington Glacier almost completely hidden in the depths of the gorge formed by their gigantic cliffs. The importance of Simon Peak as the culminating point of the group was first realized at this time. Although not indicated on the map of the Bridgland Survey, the extreme summit must

⁸ *C.A.J.* viii. 68.

⁹ *Climbers' Guide to the Rocky Mountains of Canada*, Palmer and Thorington, pp. 146, 148. Mr. Carpe, at that time, obtained an altitude of 10,900 ft. for Simon Peak, and the party recognized it as the apex of the massif ; it was not then thought of as a part of Mt. Fraser because the Bridgland map had applied the name ' Mount Fraser ' specifically to the east peak. The use of ' Mount Fraser ' to cover the whole massif—Simon, McDonell, Bennington—is a later development, arising in the discovery of Simon Peak, and which has been incorporated with the maps of the Interprovincial Survey.

have been visible from many of their stations. The map and finely illustrated report by Bridgland, published in 1917, first made known the Tonquin Valley region. In 1921 members of the Interprovincial Survey occupied many high points as stations, including Beacon (9795 ft.), Whitecrow (9288 ft.), and Rufus (9053 ft.), effecting a junction of the two surveys.

One realizes, almost instinctively in the valley of Tonquin, that the carving of its great rock spires is still in the formative stage. The mountains are but roughly hewn out, with an impressionistic technique as fantastic as it is fanciful. The great slopes of sharp chips and ragged blocks indicate plainly that Nature has but shaped out the plan; there is as yet nothing of the soft smoothness of finished work.

It was a gay day, bright with sunshine, when we rode the trail toward Amethyst Lakes. Through flowering meadows—heather and painter's brush—we came to the lake shore, where broad sheets of translucent blue water reflect the steep buttresses and crescentic hanging glaciers of Redoubt and Dungeon. There is one conspicuous horizontal snowy ledge, mid-high in the wall and continuous, with scarcely a break save where icy gullies cut through at right angles from high notches in the jagged crest-line. In a little while camp was pitched in the trees near the southern margin of the lakes, and we eagerly awaited announcements from the cook.

Surprise Point is an amusing little pinnacle that rises above the camping place to a height of 7873 ft. It looks so easy, but is really quite a scramble if one tries it in moccasins and with each hand encumbered by a camera. Strumia and I climbed up during the afternoon, in something less than two hours, although we made frequent stops to photograph some queer little rickety towers of the ridge that looked for all the world as if a giant's child had been playing at building blocks and had finally disjoined his construction with a push. There is not much room on the summit, but we found a ledge where snow was melting and a place where we could stretch out for a snooze on the warm rocks. There we stayed for more than three hours, held by the panorama of peaks, meadows, and winding streams. Only when the westward sun threw a dark serrated silhouette of the range down upon the Amethyst Lakes did we tear ourselves away and race down to the camp fire.

Simon Peak, although the culminating height of the group, is most retiring and quite invisible from camp ground at Surprise Point. On July 13 we left at 5.30 with the idea of finding and climbing it if we could. An old game trail was followed

through dense forest to the moraine below Fraser Glacier. We entered a shadowed glen where the bed of the creek is somewhat wider and the waters spread into limpid pools that perfectly reflect the symmetrical outlines of Bennington, towering above a line of stately pines. Unfortunately, the ground is marshy and forms a breeding place for mosquitoes, which followed us in clouds until the breeze from the ice drove them away.

Hurrying up some rising grassy slopes we were soon among the enormous morainal blocks below the glacier, and in a few minutes had rounded a tiny marginal lake to the ice itself. Past a corner of Outpost the circle of little peaks bounding Eremite Glacier presented themselves in snowy line. Eastward we looked down upon the curious yellow brilliancy of Chrome Lake, and into the Astoria Valley, where Mt. Edith Cavell raises a shaly snowless gable to a sharp point wholly unlike the great white face one sees from Jasper. The Fraser tongue is almost unbroken, and we rapidly gained height on long slopes of snow and moraine. A little to the south rises Erebus, in a series of steep cliffs and receding ridges in step-like formation that would make direct attack a difficult procedure. Foreshortening makes the peak seem very sheer, but toward Simon Creek, south-westerly, it breaks down into an easy gradient of shaly strata.

We had heard that Simon Peak possessed a formidable ice crest, and for that reason it seemed best to reconnoitre a little in order to spy out a satisfactory route. In two hours and a half from camp we reached the nearly level snow plateau on the Erebus-Fraser saddle and could look over to the radiating glaciers at the head of the 'North Whirlpool.' Distantly in the south, the Scott Group and the mountains near Athabaska Pass were visible through a thin veil of forest-fire smoke. We stopped for a few minutes and then crossed two small snow basins to the head of Simon Glacier. We sat down for lunch in the shadow of a curious little tower, perhaps 40 ft. high, and looking for all the world like a 'pill box' of wartime days. It was a blunt needle with steep walls which nearly aroused us into an attempt to climb it. Food, however, proved more enticing.

The actual peak of Simon was still hidden, but we could now see that it would be possible to get onto the glacier, cross to its head and ascend steep slopes toward the col between our objective and McDonell Peak. This plan was duly followed out, and we were soon a considerable distance up the snow. Due care was necessary in avoiding the base of a small ice-fall

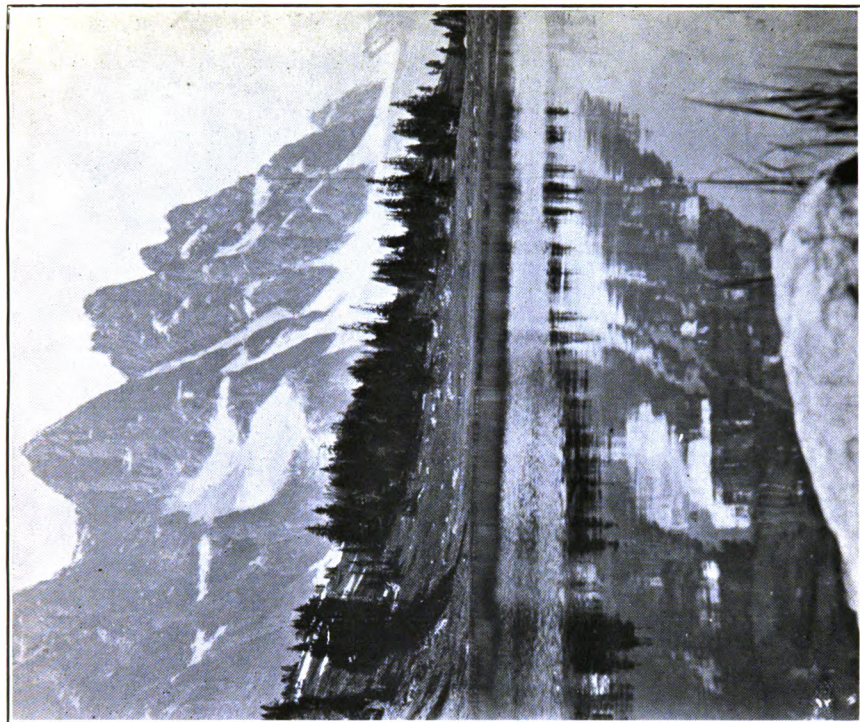


Photo: J. M. Thorington.

THE RAMPARTS
from Amethyst Lake, Tonquin Valley.



Photo: M. M. Struma.

EREMITE CIRQUE and CHROME LAKE
from Surprise Pt., Tonquin Valley.

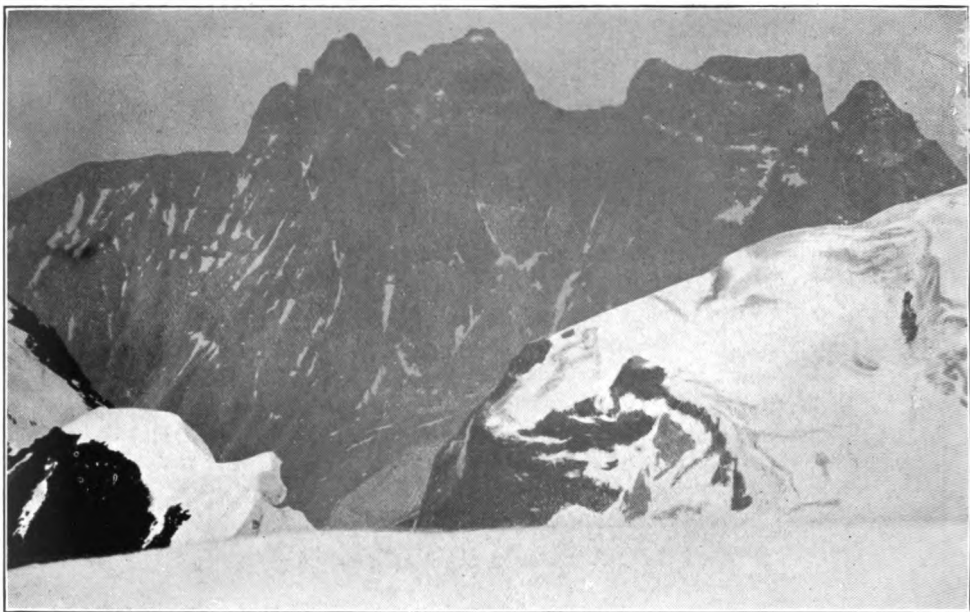


Photo: M. M. Strumia.

THE RAMPARTS
from Simon Peak across gorge of Bennington Glacier.



Photo: Interprov. Survey.

SIMON PEAK, 10,899 ft.
Highest summit of Ramparts from S.W.

which enters the snow-field at the edge of our proposed route, and blocks of blue ice imbedded far out on the snow gave indication that little avalanches sometimes came down. We crossed a deep schrund below a rocky wall, over a bridge that was narrow and steep, and then mounted steadily over down-tilting strata where water cascaded down and filled our sleeves if we were not careful in our choice of handholds. There was a gully in the margin of the ice-fall where a careful watch was made to avoid the flakes of shale which frequently scaled down and sailed over a rocky bench to lower snows.

It was soon possible to cross above the top of the fall and take to the rocks, after which we made good time to the ridge above. For the first time we now saw Simon Peak, a little to the north, icy, and with superb frozen cornices overhanging the gorge of Bennington Glacier. The rope became a real necessity; Conrad cut steps along the southern slope, where the ice fragments swished down and vanished. There were patches of quite hard ice, slowing our progress, and more than a hundred steps were made to the first snow point of the final crest. Beyond us lay a higher cornice, and then a short level of rocks and shale forming the summit; it was just 1.30 when we arrived and took off the rope. The difficulties had been much less than we expected.

It was a pleasurable surprise to find a rock outcrop on the very highest point of the mountain, and we sat down in a comfortable spot to have lunch. It was not the best of days for a distant view, as smoke hid many of the far peaks that we had hoped to see. Most spectacular, however, was the gorge of Bennington Glacier. Formed by the snows that lie in the northern cirque of Mt. Fraser's three peaks, the ice stream winds sinuously below the barren west wall of the Ramparts and disappears around the corner of Casemate—the lowest portion of visible ice being more than 4000 ft. below our viewpoint. The glacier is more than 3 miles long and gives rise to Geikie Creek, flowing to Fraser River; the long northern arête of Simon Peak walls the ice on the west and plunges down in snow-powdered precipices and broken ridges that support the gigantic towers of Casemate and Postern. Beyond the muddy waters of Icefall Lake are two smaller pools of clear deep blue, and on the meadows across Geikie Creek we discovered the tents of another party,¹⁰ whose members were carrying on a mountaineering campaign in the vicinity.

¹⁰ Messrs. Fynn, Geddes, Wates, and Slark. See *A.J.* xxxvi. 342.

Above their camping place rises Mt. Geikie ; a tremendous grim wall it is, seared and fissured by ice-filled couloirs, and surmounted by two fine towers sprinkled with new snow. We thought that the rocks would be scarcely dry enough for climbing, but were pleasantly surprised to learn that a successful ascent was achieved only a few days later. We ourselves had at no time any real designs on Geikie, and as we gazed at its fascinating crags we could scarcely believe that our own position on the summit of Mt. Fraser was by a few feet a loftier one.

It was now quite plain that nothing of difficulty intervened between Simon and McDonell Peak ; so rather than retrace our roundabout route, we built a cairn, walked back in the ice steps, and traversed McDonell. We were just one hour between the summits, Strumia leading up the ridge on steep crags where every hold was firm and belays for the rope were found wherever required. We had some thought of going on and adding the unclimbed Bennington Peak to our bag ; but it looked long and not too interesting ; storm clouds were blowing over, and we decided to go on down. Besides, it was 3.30, and we, as usual at this time of day, were beginning to think of supper.

Long slopes of scree and shale lead down to the Fraser Glacier ; we took off the rope and were soon far below. Peals of thunder were heard rumbling in the north, and a shower of rain swept by as we left the ice. At 5.0 we were once more amongst the mosquitoes—Conrad heard them buzzing nearly half a mile away and put a turn of the rope about his ice-axe lest they carry it off—and spent a miserably unhappy hour fighting them in the woods below our camp. On arrival we found the men stretched on the grass beside the tents, looking through binoculars toward the Astoria meadows. What at first appeared to be a grizzly bear turned out to be a cariboo ; and on watching we counted no less than twenty-five of them feeding and slowly moving across the grassy slopes. As we turned toward the fire, drawn by the appetizing odours from the cook-pots, the clouds were breaking above the Ramparts, and a broad shaft of golden light formed a bright pattern on the Eremite glacier.

Early in the morning we broke camp and returned to Moat Lake, a ride of some three hours. The sky was overcast, and the spires of the Ramparts were all hidden in trailing mist. Our tents were set up near the little ponds on the summit of Tonquin Pass, with a frontal view of the cliffs of Bastion and Turret. During the afternoon we examined the northern wall of Geikie, but were able to see little of its upper portion because

of low clouds that swirled about without lifting. Below the Turret pinnacle is a narrow gully, with broad, funnel-shaped top which collects the stones that come rattling and banging down night and day; the Indians for generations have known of this place of 'mountain thunder.' Sunset glow cast crimson and purple lights on the buttresses of Geikie and Barbican, with sulphur light suffusing the transparent mists through which the higher ridges were occasionally revealed.

Although the next day came with a grey dawn, Conrad and Strumia went out for a climb on Bastion. We watched them cutting over a steep slope of snow high up, and disappear into the hollow beyond. They were back in time for supper, having reached a lofty notch through which they looked down upon Bennington Glacier. The final wedge, like a huge stone spade, had been out of the question under such weather conditions and the limited time at their disposal.

It was our last night in camp with the outfit, and, as usual, the weather showed signs of immediate clearing. As we sat by the roaring fire, listening to stories of far adventure, we noticed that from behind Maccarib and Oldhorn, beyond the little lakes, a full moon had come up to light the shadowy walls of the Ramparts. Pinnacle after pinnacle caught up a gleaming moonbeam, as if hidden sprites were racing along the ridges and touching them with torches into a silver glow. Slowly rose the moon, not in solemn grandeur, but with full face smiling as if in sympathy with our merriment. A wind from the Tonquin Pass was gently moving the pine-tops; there was a tinkling of bells as our horses wandered across the meadows.

A NOTE ON THE ORIGINAL JOURNALS OF DAVID DOUGLAS.

By J. MONROE THORINGTON, M.D.

NEW problems more interesting have arisen in the mountaineering history of the Canadian Alps than that occasioned by the Scots botanist, David Douglas, incorrectly ascribing tremendous elevations to the peaks of Athabaska Pass, which he named Mt. Brown and Mt. Hooker.¹

¹ For a general summary of the Brown-Hooker problem consult the writer's article, 'The Mountains of the Whirlpool' (*A.J.*, No. 229, November 1924, p. 299).

Thanks are due to the Council of the Royal Horticultural Society

Douglas' journals, the earliest documents describing the ascent of a peak in the Canadian Rocky Mountains, were published almost a century later by the Royal Horticultural Society in a most carefully edited monograph² which has been the standard work referred to by commentators. The original journals, strangely enough, appear never to have been consulted by anyone with mountaineering experience—a fact that induced the writer, during a visit to London, to investigate the problem at its source.

In the preface to the Royal Horticultural Society's monograph it is stated in regard to the journals that :

1. The handwriting is nowhere easy to read, and in places most difficult, if not occasionally quite impossible.

2. In the course of nearly one hundred years the ink has faded and become in places very hard to decipher.

3. After the diary of his journey in North-Western America had been prepared for the press and set up in type, a second manuscript was discovered which at first sight was taken to be a duplicate, but which on closer examination was found to contain a great deal of additional information. It had therefore to be compared word for word with the diary and the additions inserted in their proper places.

Both the diary, often spoken of as the 'Longer Journal,' and the manuscript discovered later, the 'Shorter Journal,' contain accounts of Douglas' crossing of the Athabaska Pass in the spring of 1827. Only the 'Shorter Journal' contains the names Mt. Hooker and Mt. Brown, and makes mention of their supposedly great height. The 'Longer Journal,' while describing the ascent of a peak, leaves it unnamed and gives estimates of elevation which more nearly agree with modern surveys.

The passages which concern the Brown-Hooker problem have been quoted frequently, but are here repeated for

for allowing pages of Douglas' Journals to be photographed. The pages, here reproduced in facsimile, are on an equally reduced scale for the two Journals, and give a clear idea of the comparative appearance of handwriting, spacing and margination.

[I have written this paper, on the meadows above Grindelwald, on the anniversary of our first ascent—1924—of Mt. Hooker.—J. M. T.]

² *Douglas' Journal, 1823-1827.* (Royal Horticultural Society monograph.) William Wesley & Son. London, 1914.

After breakfast at ^{one} o'clock, being as I conceived on
the highest part of the route, I became desirous of
ascending one of the peaks, and accordingly I set out
alone on snowshoes to that on the left hand or west
side, being to all appearance the highest. The labor
of ascending the lower part, which is covered with pines, is

plain beyond description, sinking on many occasions to
the middle-knee and at vegetation ends entirely, not so
much as a step of moss or lichen on the stones.
Here I found it less laborious as I walked on the hard crust,
one-third from the summit it becomes a mountain of ice,
and for one of Nature's hand as a monument work
of Nature's Power. The height from its base may be about
5500 feet: Timber, 2750: ice for mosses and lichen, 500 more,
1000 feet of perpetual snow: The remainder, towards the top
1250, as I have said, glazes with a thin covering of snow
on it. The ascent took me 5 hours; descending only one
and a quarter of places where the descent was gradual I
tied my shoes together, making them hang one in turn as
a slide: sometimes I came down at one fell swoop 5 to 700
feet in the space of one minute and a half. I required
20 minutes, my thermometer standing at 18°; and might easily
fast in one me and in means of fuel, I was reluctantly
forced to descend. The sensation I felt is beyond what I can
give attention to - nothing, as far as the eye could perceive
but mountain such as I was on, and many higher, some
rugged beyond any description, striking the mind into terror
intended with a cloud of the horizon and of the at-
mosphere. The aerial tints of the snow, the heavenly green
of the solid glaciers, the rainbow-like hues of their
the broken fragments, The huge mappy icebergs lying
-ing from the perpendicular rocks with the snow sliding
from the steep eastern rocks with increasing velocity, pro-
ducing a crash and rumbling like the shock of an earthquake,
The echo of which resounding in the valley for several
minutes.

After
Breakfast about one O'clock being
well refreshed I set out with the view of
ascending what appeared to be the highest

peak on the North or left hand side
The height from its apparent base exceeds 6000
feet 17000 above the level of the sea
After trapping on the lower ridge of about

10000 feet

completeness and to contrast the versions of the two journals :

1. *From the 'Shorter Journal.'*³—'After Breakfast about one o'clock being well refreshed I set out with the view of ascending what appeared to be the highest peak on the North or left hand side. The height from its apparent base exceeds 6000 feet 17000 above the level of the sea.

'After passing over the lower ridge of about 200 feet by far the most difficult and fatiguing part, on snowshoes, there was a crust on the snow over which I walked with the greatest ease. A few mosses and lichens *Andrea* and *Jungermanniae* are seen, at the elevation of 4800 feet vegetation no longer exists. Not so much as a lichen of any kind to be seen 1200 feet of eternal ice. The view from the summit is of that cast too awful to afford pleasure. Nothing as far as the eye can reach in every direction but mountains towering above each other rugged beyond all description, while the dazzling reflection from the snow, the heavenly azure of the solid glacier and the rainbow-like tints of the shattered fragments together with the enormous icicles suspended from the perpendicular rocks and the majestic but terrible avalanche hurtling from the southerly exposed rocks producing a crash and groans through the Valleys only equalled by an earthquake. Such gives us a sense of the stupendous and wondrous works of the Almighty. This peak the highest yet known in the Northern Continent of America I felt a sincere pleasure in naming MOUNT BROWN in honor of R. Brown, Esq., the Illustrious Botanist, no less distinguished by the amiable qualities of his refined mind. A little to the South is one nearly of the same height rising more into a sharp point I named MOUNT HOOKER in honor of my early patron the enlightened Professor of Botany in the University of Glasgow, Dr. Hooker, to whose kindness I, in great measure, owe my success hitherto in life and I feel exceedingly glad of an opportunity of recording a simple but sincere token of my kindest regard for him and respect for his profound talents. I was not on this Mountain.'

2. *From the 'Longer Journal.'*⁴—'After Breakfast at one o'clock, being as I conceive on the highest part of the route, I became desirous of ascending one of the peaks, and accordingly

³ R.H.S. monograph, p. 71. The quotations are, however, from the original journals, with alterations of punctuation only where necessary to clarify the narrative.

⁴ R.H.S. monograph, p. 258.

I set out alone on snowshoes to that on the left hand or West side, being to all appearance the highest. The labor of ascending the lower part, which is covered with pines, is great beyond description, sinking on many occasions to the middle. Half-way up vegetation ceases entirely, not so much as a vestige of Moss or Lichen on the stones. Here I found it less laborious as I walked on the hard crust. One-third from the summit it becomes a mountain of pure ice, sealed far over by Nature's hand, a momentous work of Nature's God. The height from its base may be about 5500 feet : Timber, 2750 ; a few Mosses and Lichens, 500 more ; 1000 feet of perpetual snow ; The remainder, toward the top 1250, as I have said, glacier with a thin covering of snow on it. The ascent took me 5 hours ; descending only one hour and a quarter. Places where the descent was gradual I tied my shoes together, making them carry me in turn as a sledge. Sometimes I came down at one spell 5 to 700 feet in the space of one minute and a half. I remained 20 minutes, my Thermometer standing at 18° ; and night closing fast in on me and no means of fire, I was reluctantly forced to descend. The sensation I felt is beyond what I can give utterance to. Nothing, as far as the eye could perceive but Mountains such as I was on, and many higher, some rugged beyond description, striking the mind with horror blended with a sense of the wondrous works of the Almighty. The aerial tints of the snow, the heavenly azure of the solid glacier, the rainbow-like hues of their thin broken fragments. The huge mossy icicles hanging from the perpendicular rocks with the snow sliding from the steep southern rocks with increasing velocity, producing a crash and grumbling like the shock of an earthquake, the echo of which resounding in the Valley for several minutes.'

It has been suggested ⁵ that the 'Longer Journal' was the original journal and that the 'Shorter Journal' was written later, after Douglas' return to London, and that names and heights were added at that time. No proofs were advanced for this supposition and there remained doubt as to which of the journals was the earlier.

The purpose of the present paper is to give results of the writer's comparative examination of the two journals :

⁵ 'New Light on Mounts Brown and Hooker,' by E. W. D. Holway (*C.A.J.*, ix. 1918, p. 47):

I. GENERAL COMPARISON OF THE TWO JOURNALS.

1. The '*Shorter Journal*'⁶ consists of fifty-six pages, 8 × 13 inches, written on each side of each sheet, with two-inch blank margin at the left. It bears the caption, 'A Sketch of a Journey to the North-Western Parts of the Continent of North America during the Years 1824, 1825, 1826, and 1827,' is signed with the initials D. D., and is apparently a prepared paper. The writing is in a large, bold, even, legible hand, and the manuscript is fresh in appearance.

It was thought by some that the altitude given for Mt. Brown in the '*Shorter Journal*' might possibly have become illegible with time and therefore incorrectly copied during the preparation of the Royal Horticultural Society's monograph. This is not so: on page 47 of the original, the passage, '... exceeds 6000 feet 17000 above the sea,' is exceedingly clear and legible, and no mistake has been made in copying.

2. The '*Longer Journal*'⁷ consists of 131 pages, 8 × 13 inches, closely written on each side of each sheet, without margins, and with occasional notes written vertically at the left-hand edge. The handwriting throughout is smaller and more compressed than in the '*Shorter Journal*'; the paper is the worse for wear, and entries appear to have been made over a long period of time.

II. RELATIVE DATES OF THE TWO JOURNALS.

A decisive clue to the dates of the two manuscripts is given in the watermarks of the paper.

On the page of the '*Longer Journal*' may be found the mark, J. & T. Jellyman 1824, while on the facing page is a crowned seal with the figure of Britannia seated.

On the page of the '*Shorter Journal*' one finds the mark, C. & H. 1828, and on the facing page a crowned seal with a lion rampant.

Douglas left England in July 1824, and crossed Athabaska Pass, eastward bound, in the spring of 1827, arriving at York Factory on August 28, 1827. He, therefore, could not have had with him the paper, watermarked 1828, on which the '*Shorter Journal*' is written. The watermark, 1824, on the pages of the '*Longer Journal*' is quite consistent with Douglas' period in the field.

⁶ R.H.S. monograph, p. 51.

⁷ R.H.S. monograph, p. 77.

CONCLUSIONS.

1. The 'Longer Journal' is the field journal, in which entries were made from July 1824 until August 1827.

2. The 'Shorter Journal' was written after Douglas returned to England, probably during the latter part of 1828, during a period of comparative leisure as shown by the large, even handwriting and broad margins,—men in the field do not do things so neatly. The manuscript was possibly prepared for reading before the Royal Horticultural Society which had sponsored his journeys.

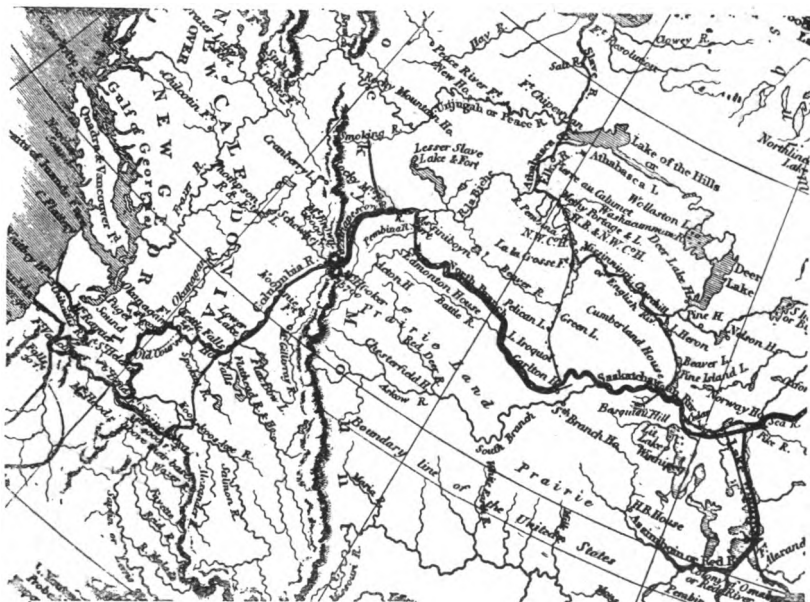
3. In the 'Longer Journal' Douglas speaks of the mountain which he ascended as being 'on the left hand or West side' of the Athabaska Pass; in the 'Shorter Journal' he describes Mt. Brown as 'the highest peak on the North or left hand side.' This may have been a slip of the pen during transcription. Mt. Brown is on the western side of Athabaska Pass and Douglas has given its correct position in his 1829 map.

4. The names, Mt. Brown and Mt. Hooker, were not given in the field, but were added later when the 'Shorter Journal' was written, no doubt as much out of compliment to Douglas' patrons as to distinguish topographical features. This would also account for the alteration of the statement in the 'Longer Journal,' '. . . mountains such as I was on, and many higher,' to 'the highest yet known in the Northern Continent of America,' as it reads in the 'Shorter Journal.'

5. Mt. Hooker is not mentioned in any way in the 'Longer Journal,' and while the 'Shorter Journal' contains the name, no figure for elevation is given; nothing but the statement that it is a peak 'nearly of the same height [as Mt. Brown] rising more into a sharp point.' Therefore the first appearance of an altitude figure for Mt. Hooker is on the map of 1829.⁸

⁸ On the map, a section of which is attached, appearing in vol. i. of *Flora Borealis Americana*, William Jackson Hooker, the elevations for Mt. Brown and Mt. Hooker are given, respectively, as 16,000 and 15,700 ft. It is on a small scale (1 : 1,500,000) in conical projection, with Mt. Hooker exactly S.E. of Mt. Brown, and Athabaska Pass—not named—between the two mountains. This map, the earliest on which these names and altitudes appear, was issued in October 1829, under the superintendence of Douglas. In two years, therefore, Douglas reduced his original estimate of Mt. Brown by 1000 ft., arriving at a figure similar to that obtained by Lieut. Simpson.

6. The altitude of 17,000 ft. for Mt. Brown was not given in the field. It is unlikely that Douglas himself made such a measurement. In the 'Proceedings of the Royal Society,' under the date April 27, 1837, it is recorded that Mr. Sabine received from Douglas several volumes of lunar, chronometrical, magnetical, meteorological and geographical observations, together with a volume of field sketches. It is known



that the geographical observations referred to the Columbia River and its tributaries; but the volumes are not in the possession of the Royal Horticultural Society and cannot be traced.

Certain it is that Douglas met men at Fort Vancouver, Jasper House, and at Carlton House who may have given him the figure. At Fort Vancouver, in November 1826, Douglas mentions⁹ his acquaintance with Lieut. Simpson, officer of the Royal Navy, who surveyed south of Jasper House during the winter 1825-26, and whom Thomas Drummond, Assistant Naturalist to the Second Franklin Expedition, quotes as having

⁹ R.H.S. monograph, p. 239.

obtained a figure of about 16,000 feet for the elevation near Athabaska Pass.¹⁰

Douglas may have been confused by the winter conditions under which he himself crossed Athabaska Pass. More likely, it would appear, he was influenced by the prevalent idea of high altitude, arising from the journals of the *voyageurs*, from the time of David Thompson onward. Douglas no doubt was able to consult this material in London, and elsewhere, before his own 'Shorter Journal' was ever written.

David Douglas was born in 1793, and was in his twenty-eighth year when he crossed Athabaska Pass. Men of his day wrote more light-heartedly about alpine regions than we do now; moderate exaggerations were not then considered so sinful. So it is extremely probable that Mt. Brown and Mt. Hooker, and their altitudes, did not weigh too heavily on his conscience. What we should remember is that Douglas was one of our greatest and most successful exploring botanists, and that his sad and tragic death in the Sandwich Island, in 1834, brought to a close a career of immense promise. His journals, although puzzling in their details, have been a factor of no little importance to the incidence of Canadian mountaineering; his story of the wonders of Athabaska Pass altogether an influence for good. If we attempt to judge Douglas after nearly a century, we can perhaps do no better than to accept his own words, written at Fort Vancouver on New Year's Day, 1826: '... I can die satisfied with myself. I never have given cause for remonstrance or pain to an individual on earth.'

THE MOUNT LOGAN EXPEDITION.

(Details of the proposed plan of operations were given in the last JOURNAL pp. 89-96.)

PROFESSOR HICKSON, President of the Alpine Club of Canada, cables that an official report is in course of preparation. It is hoped that this can be issued with the May JOURNAL.

¹⁰ Hooker's *Botanical Miscellany*. vol. i. p. 190; quoted in *A.J.*, No. 229, November 1924, p. 301.



PORTRAIT OF DAVID DOUGLAS, F.L.S. (1798-1834).

From a pencil drawing by his niece, Miss Atkinson. This was Douglas' appearance at the age of thirty, the sketch being made within two years of his return from Athabaska Pass. (*Reproduced from R.H.S. monograph, 1914.*)

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Photo: L. M. Forbes.

CAPT. MCCARTHY.

LT.-COL. W. W. FOSTER, D.S.O.

The party consisted of Capt. A. H. MacCarthy, Mr. H. F. Lambart, Lt.-Col. W. W. Foster, Mr. Allen Carpe, Mr. Norman H. Read, Mr. Taylor, Mr. H. S. Hall, junr., and Mr. R. Morgan.

We are enabled by the courtesy of *The Times* to reprint the following extract from Colonel Foster's account in the issue of August 8:—

' On June 9 we had moved up our supplies, and found ourselves in the midst of monstrous ice-cliffs and blocks of fantastic shapes, with overhanging masses challenging approach to the mountain itself. There were huge cliffs of ice reaching perpendicularly for 1000 ft., whilst the sides of King Col terminated in an abrupt descent to Seward Glacier in a valley we could see far to the right. Finally the reconnoitring party, consisting of Captain MacCarthy, Read, and myself, discovered what was the only portal to the heights above. There was a portcullis of ice posed overhead, whilst down through a crack we could see a direct drop of 1000 ft. In honour of our leader this was called MacCarthy Gap.

' On June 14 the clouds lifted at 3 A.M., and an immediate start was made from King Col Camp. In the afternoon the storm resumed, and we bivouacked for a night and a day in the midst of ice-cliffs. On the afternoon of the 16th, reaching a height of 16,800 ft., we established "Windy Camp." Here, at 7 o'clock that evening, it was 12 degrees below zero, and within an hour it had dropped to 26 below. The minimum on the following day was 32 below. Several of our party by now were exhausted and badly frost-bitten. Only now and again did we get a glimpse of the actual summit several miles away. We had only one day's provisions, and five of the party, therefore, were forced to return to King Col for supplies, while the same advance party went ahead.

' Next morning we moved supplies forward to the summit of a ridge at an elevation of 18,500 ft. The hurricane abated that morning. Henry S. Hall, junr., of Milwaukee, and his fellow townsman, Robert Morgan, owing to the strenuous work under the terribly trying conditions, were so severely frost-bitten that it was impossible for them to proceed. They started to return to the base camp, while the six of us remaining moved forward to a new camp at an elevation exceeding 18,500 ft.—probably the highest camp ever made on the North American continent. The two peaks of Mt. Logan were still four miles away.

' Not until the morning of June 23 did a break occur in the

weather. Then, all unexpectedly, a glorious day began. We determined to make this day the day of conquest. We realized that such an opportunity might never occur again. The most exhausted of our men were inspired to struggle on until evening. At 5 o'clock, with a cloudless sky above us, the six of us stood on what maps have shown as one of the highest peaks of the Logan group—19,800 ft. This was a great success, but our elation was marred by our seeing, even without using instruments, that a second peak, across a valley and nearly two miles away, was far higher. So we descended a thousand feet and again began to climb.

'We were tired and footsore and such conditions made it a most trying ordeal, but the weather was with us. A snow and ice slope, often 40 to 50 degrees, terminated in a knife arête that finally led to the Logan summit. It was heart-breaking work. Almost every furlong involved step-cutting. It was 8 o'clock in the evening when the six of us—Captain MacCarthy, Carpe, Lambart, Read, Taylor, and myself—reached the real summit. In a rainbow crowning Logan was the shadow of each of us as we stood at the top, gazing at the amazing spectacle of seas of cloud, broken here and there by mountain tops peeping through. A thousand feet below, in every direction as far as the eye could reach, we could see mountain peaks and glaciers. The temperature was 4 degrees below zero.

'For an hour we lingered in the inspiring scene. Increasing cold and approaching storm, with the light rapidly failing, gave warning to descend, and when at 10 o'clock we were in the valley below, the peaks all around were immersed in the storm and visibility was gone. Soon after midnight, and still 19,000 ft. above sea level, exhausted and numb with cold, we dug into the snow and rested until the following day.

'The storm continued, but the exhausted condition of some of our party made action imperative. Precarious progress was made during the afternoon. Three of us on one rope reached Plateau Point on the evening of June 24, while the other three spent the second night alternatively moving and taking shelter from the storm in snow-holes, and reached the plateau on the morning of June 25.

'On June 26 we all started down from Plateau Camp to King Col, only to fall into another vicious hurricane. Only the heroic work of some of our party averted loss of life. The storm continued all through another day as though Logan still desired to punish its conquerors, and not until 2 o'clock

on the morning of June 27 were we all safely back at King Col Camp. Our hands and feet were badly frost-bitten, and only slow progress was possible. We were at Cascade on June 29 and 30, and down to Ogilvie Glacier on July 1.

'We had expected to find food left in the cache at Walsh and Chitina, but in both places bears had broken in and eaten everything. The cache at Trail End was reached by evening on July 6, and another day brought us to Hubricks.

'We had spent 44 days entirely on ice. Each man had the equivalent of 70 pounds to pack over 200 miles of ridge and glacier and steep slopes often at great elevations. The topographic enumeration we made was of great value, and wonderful photographs were secured. We think that Logan is the greatest mountain of its character in the world.'

The adventures of the party were not yet ended, for during a wild ride down the Chitina River rapids on a flimsy raft, Captain MacCarthy, Colonel Foster, and Mr. Allan Carpe were swept into the main channel over the rapids, their raft capsized, and they were hurled into the water. MacCarthy and Carpe clung to the upturned raft, while Colonel Foster swam. The three managed to reach a sandbank in midstream and later reached the shore clinging to the remainder of the raft. From this point they had to 'mush' 70 miles into McCarthy, which they reached just as a search party was setting out.

The following cables were exchanged :

To Canadian Alpine Club Banff.

President Committee and Members Alpine Club send you heartiest congratulations on great success Mt. Logan Expedition.

Alpine Club.

Alpine Club London.

We appreciate very much Alpine Club's congratulations success Mt. Logan Expedition casualties slight

Wheeler.

Our comrades of the Canadian Club are to be congratulated very warmly on this magnificent exploit. Success is due, in the first place, to Capt. MacCarthy's personal service in laying,

in appalling hardships, the necessary provision caches and, secondly, to his splendid personal leadership backed up by his determined companions. Greater hardships have probably never been experienced in any mountaineering expedition.

The organizing committee left nothing undone to ensure success, and it is understood that the total cost will not exceed about £2500.

EDWARD WHYMPER.

A MEMORIAL to the late Edward Whymper has been erected at Zermatt, the cost of which has been defrayed by subscription amongst the members of the Alpine Club. Mr. George Flemwell, the well-known artist, also made a generous contribution by presenting one of his pictures for a tombola.

The Memorial is in the form of the bronze plaque as illustrated. It has been most successfully executed by Miss Barbara Collingwood, the daughter of a member of the Alpine Club. It is placed on a solid granite slab which, by the kind permission of the Seiler family, fills the space of a disused doorway in the façade of the Hotel Monte Rosa.

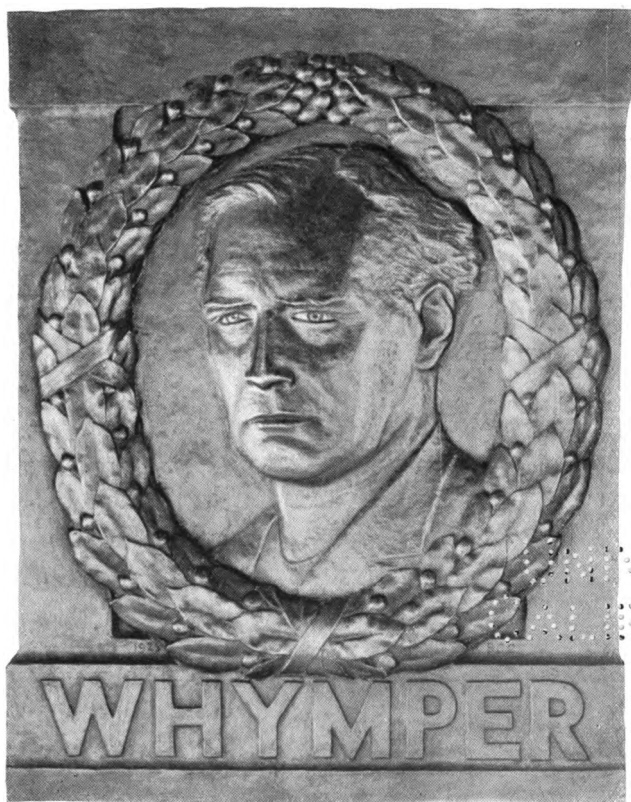
The Memorial was unveiled on August 9 by General Bruce in the presence of a large crowd, which included Dr. Dübi (representing the Swiss Alpine Club), the Vice-President of the Monte Rosa Section, the Presidents of the Commune and Guides Associations, Dr. Hermann Seiler, Mme. Imfeld, and other members of that family and several members of the Alpine Club. Mr. George Flemwell was unfortunately unable to be present. Speeches were made by General Bruce and Dr. Dübi, after which the Zermatt orchestra played the British and Swiss National Anthems.

After the ceremony, the guests mentioned were entertained at a luncheon by Dr. Hermann Seiler.

THE EXHIBITION OF ALPINE PAINTINGS AT THE CLUBROOMS, MAY 1925.

IT was a surprise on entering our Clubrooms last May to find that this year's Picture Exhibition was almost wholly confined to water-colours. The few oil-paintings, secluded in a corner, hardly affected the character of the show, though one of them, 'Jannu,' by Mr. Francis Helps, vigorously asserted itself as a faithful, if prosaic, portrait of the Nepalese giant.

Our first impression of the collection provided by the zeal



| Condition | 10 years (○) | 12 years (●) | 14 years (□) |
|-----------|--------------|--------------|--------------|
| 1 | 65 | 75 | 75 |
| 2 | 70 | 80 | 80 |
| 3 | 75 | 85 | 85 |
| 4 | 80 | 85 | 80 |
| 5 | 85 | 80 | 80 |

and energy of Mr. Spencer was that it was marked rather by a large number of careful and competent studies than by any pictures of outstanding importance. In choosing their subjects the artists seemed as a rule to have kept within certain physical limits. On the one hand they showed reluctance to venture into the ice-world, or above the snow-level: on the other hand, they had mostly resisted the temptation to descend to the sub-alpine lakes and valleys, to the region where chestnuts and vineyards, pergolas and campanili, serve as a foreground to the higher ranges. In another respect we noted a certain lack of enterprise. Mountains, as they are known to most mountaineers, have an infinite variety: they reveal themselves to their old and faithful worshippers in ever-changing aspects. They have their intimate moments, when they wrap themselves in the shroud of a thunderstorm, or play with the bright scarves of mist that gather round them, or, again, when they glow like a vision in the rose of dawn or dusk. The mountains on our walls were for the most part the Alps in their everyday dress, ready for afternoon visitors! We should have been glad to meet with more attempts to represent them as they show themselves from time to time to their intimate friends and lovers. Mr. Loppé's drawing of 'Sunrise on Mont Blanc' was a poem as well as a picture. In former years Mr. Cecil Hunt has reproduced the noble effects of mountain-gloom. It is true that the literary critic who writes on Art for *The Times* took the occasion of our Exhibition to assert 'that anything so vast and emotional as a sunset on a range of mountains cannot really be contained in a water-colour'—a medium he considers 'more suitable for more intimate landscapes.' Has the Twentieth Century forgotten Turner?

Mountains need to be known before they can be painted. We would point out to the enterprising students of to-day that they have opportunities for living with and understanding the Alps that were denied to their predecessors. The multiplication of Huts has had its advantages as well as its drawbacks, and one of its chief benefits has been to enable painters to frequent the region above the snow-level as staying guests, and not only to 'glance and nod and bustle by' as passing visitors.

But it is time to leave general reflections and turn to mention of the individual drawings exhibited.

Sir H. Hughes-Stanton, R.A., P.R.W.S., claims the first place by the size and dignity of his landscape, a scene in the remote Japanese Alps. The drawing of the mountain summits is

masterly ; but why—the ordinary visitor may ask—is the atmosphere so colourless and chilly ? Sir H. Hughes-Stanton has answered the question for him in the Preface to the recent exhibition of his works shown in Bond Street. He there proclaims that he has set himself to correct the false impression of Japanese scenery transmitted to Europe by the native art. He has, he asserts, discovered and revealed ‘ the Real Japan ’ !

It may seem at first sight rash to question the impression of so competent an observer. But we cannot altogether forget that other English painters have been in Japan, amongst them our own members—members also of the Royal Academy—Alfred East and Alfred Parsons. And, moreover, the present writer has very vivid memories of his own to fall back on. Is it permissible to imagine that Sir H. Hughes-Stanton was unlucky at the time of his visit ? According to general experience, the skies of Japan are—at any rate in autumn—luminous ; the colours of the landscape—capes and bays, grassy hills or forests—varied and vivid. The traveller is reminded of the hill-regions of the Apennines, of Portugal, or of the extreme north of Spain, rather than of the colourless east-wind skies we have too often to submit to in our own island.

Some of our painters ‘ *qui trans mare currunt* ’ seem to find it difficult to change even their ‘ *coelum* ’ ! Was it of purpose that a Japanese landscape by a native artist was hung immediately over Sir H. Hughes-Stanton’s pale mountain-tops ? As a work of art it had its faults, but from the traveller’s point of view it came nearer our recollections of the local atmosphere. We may note here in passing ‘ *A Japanese Mountain Tarn* ’ by Kichibei, lent by Mrs. Weston, a proof that the modern art of Japan has not lost its talent for close observation of natural detail.

Mr. Cecil Hunt we always follow with interest. This year his contribution consisted of only two small drawings : one a signally successful view in the Rhone Valley, where a subject that might have been rejected at first sight as without charm has furnished material for a striking and harmonious composition. A stern and naked view of Piz Roseg was less attractive.

From Mr. W. E. Powell came sundry sober likenesses of rock peaks, sound in drawing and rich in colour. His masterpiece was a view of the Blümlis Alp from near Kandersteg ; the Weisshorn from the Dom hut furnished another bold sketch.

Mr. Gere was one of the chief contributors, and his exhibits all deserved attention. ‘ *The Valley of the Inn* ’—a broad landscape—was very successful in rendering the restful lines

and human charm of one of the greater valleys of the Alps, and served as a pleasant interruption in the procession of peaks that lined our walls. In the 'Terrace at Simplon Kulm' we could have done without the tourists on the terrace! They looked out of keeping in the drawing, as they doubtless did in reality. Mr. Gere's Matterhorn seemed to miss the characteristic up-thrust—the 'rearing horse' aspect—and the solidity of the great Zermatt peak. His mountain looked unsubstantial and inclined to lean over. It was somewhat of a relief this year to meet with fewer Matterhorns than usual and to find that the noble peaks of the Weisshorn and Dent Blanche are attracting a fair share of attention.

Mr. Noel Rooke's 'Fletschhorn from the Bel Alp' was a noteworthy success, a most harmonious and satisfactory drawing. The mountain slopes and summit glowed in a softening haze which pervaded the whole landscape. 'Glaramara and Borrowdale,' by the same artist, showed a like skill in representing atmospheric effect. Colonel Donne sent 'Mont Grammont from below Les Avants'; a reminiscence of the beauties of a Swiss spring at the head of the Lake of Geneva, and a memory of dawn on the far-withdrawn snows of Mount Everest as seen from Sandakphu. Mr. Arnold Forster's 'Mont Aiguille' did full justice to that picturesque and historic crag. Mr. Collingwood's two views of the English Lakes in snow and storm called for honourable mention. We might add largely to the roll of meritorious works exhibited, but where so much was pleasant the list would, if complete, tend to become a catalogue.

We must not, however, forget that ladies were responsible for nearly a third of the exhibits. Miss Hechle, whose recent exhibition was noticed in our last number, was severely alpine. The drawings she sent were marked by the ability we have already recognised. Miss Wallis revelled in the mosaic of flowers that brightens alpine meadows in early summer, before they are swept off by the haymaker's scythe. Miss Pawsey can draw a figure vigorously: her 'Old Bridge at Arolla' was a pleasing subject. Miss Norman-Neruda sent winter effects, and Miss M'Alpin studies from the Dolomites. But we had nothing from this region to rival Mr. Adrian Stokes' excellent picture of the Rosengarten Peaks in the Royal Academy.

The extremely limited retrospective section calls for a few words of notice. Earliest in date were two water-colours by Lory, the well-known painter of the eighteenth century whose works, dry and capable, were frequently reproduced in colour-

prints. There was a typical Jungfrau by George Barnard, with a conventional pine-forest in the foreground. More interesting were two drawings by Loppé, the only specimens we know of his work in water-colour. They have an additional interest since they were given by the painter to Sir Leslie Stephen, whose nephew, Sir Harry Stephen, has recently handed them over to the Club.

In conclusion, we must not forget to add that Mr. Sydney Spencer proved his interest in alpine art by several contributions which lead us to hope that he will continue to practise the art as well as to organise our Picture Exhibitions. We must congratulate him further on the excellence of the hanging, which contributed greatly to the visitors' enjoyment of a very satisfactory record of the Club's artistic endeavour.

D. W. F.

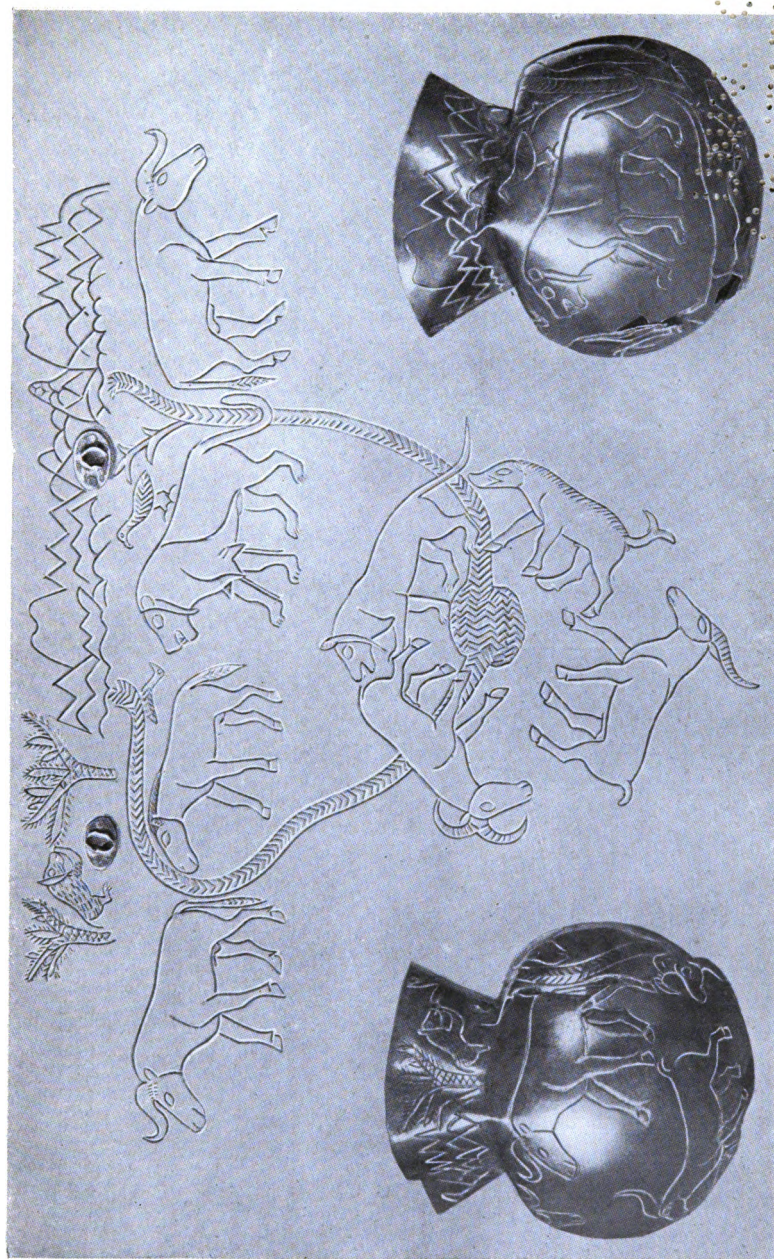
A PREHISTORIC PANORAMA OF THE CAUCASUS.

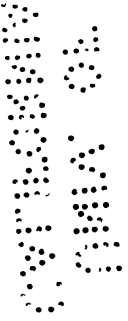
IN his recent volume giving an account of a visit to Soviet Russia for the purpose of inspecting the art treasures of that country and ascertaining their treatment under the present Government, Sir Martin Conway describes an object, forming part of the treasure discovered at Maikop, north of the Caucasus, which has a singular interest for mountaineers. We quote his description,¹ which is accompanied by the illustration we have permission from Messrs. Edward Arnold & Co. here to reproduce.

'The treasure of Maikop is probably the most ancient discovered in South Russia. It belongs to the latest Stone Age, and is roughly attributed to the fourth millennium B.C.—a single grave contained the whole of it. . . . There is a very remarkable silver vessel with a rude representation, engraved in outline, of the great Caucasian chain of mountains as seen from the north. The peaks of Elbruz, Uzhba [*sic*] and Kazbek are easily identifiable, with the Kuban and Terek rivers flowing from them. Whether this design be regarded as a picture or a map, it is by thousands of years earlier than any other representation of individual mountains known to us.'

With regard to the mountain outline, I agree with Sir Martin Conway that it represents 'a seen view'; and that the peculiar volcanic forms of the double crests of Elbruz and Kazbek are distinctly indicated; but I hesitate to recognise Ushba in the spotty peak immediately east of Elbruz. Standing on a southern spur, Ushba is, I believe, invisible from any point on the northern steppe; and I have an outline of the range drawn very carefully in the clearest weather. The only outstanding peak conspicuous between

¹ *Art Treasures in Soviet Russia.* Arnold. 16s.





Elbruz and Kasbek is Dych Tau. The rivers shown—and here Sir M. Conway agrees with me—are, I believe, the Terek and the Baksan, which join in the way represented, while the Kodor flows to the Black Sea.

With regard to the date to be assigned to the vessel in question, Dr. Hogarth writes to me: 'The real date of that Maikop vase has always worried me. If one accepts Rostovtzeff's "fourth millennium," a gulf of nearly two millennia opens between it and the next lot of remains in the Kuban District. Personally I would rather put it in the early Bronze Age, say third or even early second millennium.'

D. W. F.

IN MEMORIAM.

ALFRED DENIS GODLEY, D.Litt.

ALFRED DENIS GODLEY, Public Orator of Oxford University, died on June 27 in his seventieth year. His death is a heavy blow to his many friends, for no man was more beloved. No one who listened to the lecture on 'Mountains and the Public,' published in the JOURNAL of May, would have thought that this was to be the last of those pleasant, humorous, and wise discourses which we should ever hear. His tall, active figure seemed to be full of vigour, and he inherited long life—his father, the rector of Carrigalan, county Leitrim, living to be nearly ninety. As a schoolboy Godley was by no means strong, but developed later. After two winters at a well-known Dublin school, he went to Harrow in the time of Dr. Butler—and was taught (if, indeed, he needed teaching) the fine art of Latin and Greek verse-writing by a brilliant Etonian, E. M. Young.

With his early manhood came his bodily strength, and there were few more capable of enduring fatigue, as is proved by his long and devoted attachment to Alpine climbing. He came of a distinguished family—on his father's side from a long line of Cheshire squires, a branch of which settled in Ireland in 1651, and on his mother's side from a refugee of the Huguenot *noblesse* who fought with distinction at the Boyne. This family has given us many scholars, soldiers, and administrators, now including his cousins, General Godley and Lord Kilbracken. For his old school Godley had a life-long regard, and became a member of the governing body.

From Harrow he went to Balliol, won a scholarship, and later became known as one of the best classical scholars in the college. He had a distinguished career in the University, with a long list of honours, including the Gaisford and Latin Verse prizes and the

Latin Essay. In spite of all his successes, Godley did not obtain a fellowship by examination. The Fellowship at Magdalen came after a short time at Bradfield, where he encouraged the Greek plays which became so famous. He kept up with his old friends, and in 1883 returned to Oxford at the invitation of his old Balliol friend, now the President of Magdalen, Sir Herbert Warren, and was elected to a Fellowship and Tutorship which he held until 1912.

In 1894 he made a very happy marriage with Miss Amy Cay.

Godley's gifts enabled him to render services to literature, to his University, and to the State. He edited the *Oxford Magazine*, he became a member of the Hebdomadal Council, and of the City Council too, and he won the respect of the councillors, and no doubt would have been Mayor.

At the time of the South African War he commanded a troop of Oxfordshire Light Infantry. 'I am a Mounted Infant,' he said. When the Great War was upon us he was chosen to command the Oxford Volunteer Training Corps.

In 1910 he edited the *Classical Review*, and the same year was elected to be Public Orator. He had a special capacity for Latin academic oratory, and has been described as 'an almost perfect writer of elegant Latin prose, which passes easily from grave to gay.' Once he chose to present a great musician, Richard Strauss, in Latin hexameters, and he accompanied these with a translation in the same metre into German.

Godley was offered the Doctorate which, with his usual modesty, he at first refused, but a few years later he took it—'It was because I shall probably have to present Potentates this summer [the Potentates were Joffre, Beatty, and Haig], and they might expect to be introduced by somebody in a red gown—otherwise I have no particular taste for these ornaments, nor for listening to the kind of things which are generally kept for obituary notices. However, I make them suffer, so I suppose it is only just.' Again he writes: 'I had searchings of heart about Parliament; I was very reluctant, but said I would stand. Then I was beaten on a vote, much to my relief.'

The condition of Ireland was always a great grief to him; he was at heart profoundly conservative, and lived to see many very hasty changes in his University and country.

If Godley had a passion, it was for the Alps: he read and dreamed of the hills; my first expedition with him was thirty-five years ago, and since then we had together many walks and climbs in Switzerland, Italy, and Lakeland, which have left many memories of his charming companionship. He was well fitted for climbing, having a long reach, a good and cautious pace, with untiring powers of walking for the approach. I only twice saw him at all exhausted, once in blazing sun on fresh snow, and once in storm and wind. He joined the Club in 1890—was on the committee in 1900, and was Vice-President in 1924. In his active days (1889 and 1890) he

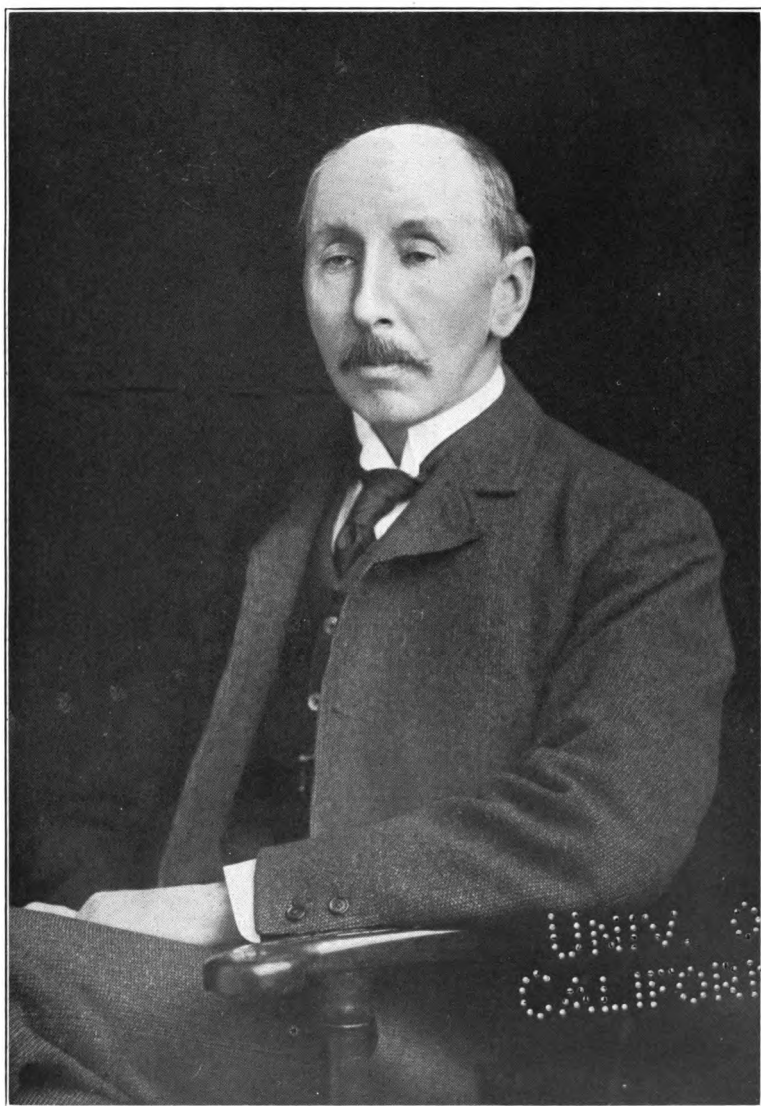


Photo: Elliott & Fry.

ALFRED DENIS GODLEY.

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climbed the Ortler, Königsspitze, Südlenzspitze, and Nadelhorn, Hohthäligrat to Oeschinensee at Kandersteg, Bietschhorn, Beichgrat, with a peak W. of the pass, to Bel Alp, Finsteraarhorn, Portjengrat, Hinterallalinhorn and glacier to Mattmark, Egginergrat, Colle delle Loccie (11 hours to the top), sleeping at Alagna. His walks between climbs were often of great length, one of seventeen hours, exploring Alps and glaciers. Every year he was faithful to the Alps; the guides, when with me, were Jean Maitre, Alphonse Supersaxo, and Alois Kalbermatten. We climbed the Weisshorn together when he was near sixty, and he went very strongly. Every incident of the hillside was stamped on his memory. Thus he writes on April 2, 'This day last year we were on Yewbarrow among the snows and woodcocks—I wish I was there now.' He would go any distance for a good view, giving great praise to the Mettelhorn, where he would sometimes linger by himself. His eyesight was remarkable, being sufficiently clear for distance, and at the same time just enough myopic to read small Greek text, so that he never used glasses either for near or far. Sitting once in the inn at Wastdale as he read Herodotus by the evening lamp I told him of the lot of mankind in usually needing glasses in middle age, and quoted 'Bon jour, lunettes—adieu, fillettes,' which he at once translated, 'Welcome, glasses; good-bye, lasses.' He was very quick at rhymes. For the amusement of a guide I once told an epitaph in German—which Godley translated:

'Traveller, stay and bow your head—
Beneath this stone my corpse lies dead;
I wish that it was yours instead.'

The best known of his writings are the four volumes of humorous rhyme: 'Verses to Order,' 'Lyra Frivola,' 'Second Strings,' and 'The Casual Ward,' which remind one of Calverley. In 'Socrates and Athenian Society' Godley's talent for clear writing is evident, and his edition of the 'Histories of Tacitus' has been reprinted nine times.

We are promised by his literary executor, Mr. C. R. L. Fletcher, a selection of his things which have not already appeared, and an edition of the best of his poems, whether already published or unpublished. Lord Kilbracken will look over the whole.

Godley had a good ear for music; he used to keep a record of the anthems in chapel. He also had a wonderful gift for humorous drawings, which he entirely dropped after 1881, so that few of his friends knew of this accomplishment.

Of his conversation when stimulated by his friend W. P. Ker no one but a Boswell could report, the Alpine joke, like an Alpine strawberry, though small, is of such exquisite flavour. All depends upon the how and when of the remark—Godley would note Broome's powerful guide and say with Wordsworth 'I take my little Pollinger,' or pass the bazaar at Fee, and suggest that the wealthy owner

should change his name to 'Supertaxo.' His apparent solemnity has often been noted: a friend thought he had a 'puzzled face,' but a 'lucid mind,' and the graceful lines to his memory in *Punch* end, 'The mournful face that masked a joyous mind.' I have seen him with a grave, almost grim, face silently point a long forefinger to an illustration advertising Mary Kingsley's African book, depicting a group of horribly decorated savages—the description beneath had been, in haste, omitted, so that it read 'Macmillan and Co.'! Godley's high intellectual gifts were united with a remarkably even temper; *Mitis sapientia* might have been his motto. His strong sense of humour made him bear minor misadventures more easily; thus when he arrived at Zermatt with only one climbing boot, the other left behind in a locked-up house at Oxford—'some one-legged man has stolen it,' he said. Another boot was quickly made for him, and established a friendly relation with the artist. Later he writes, 'I have had a letter from my friend the ruffian, A. Burgener of Zermatt, the shoemaker—I had to send him a pipe for a Christmas box, because all last season he refused to charge me anything for nailing any of my three boots.'

Godley, always thinking of the Club, wrote to console me for missing the December dinner in 1922, with a report of the speeches. 'Bruce spoke excellently; he pleased me by telling the young men present that neither by winter sporting nor by shinning up British rocks could they get any real knowledge of mountaineering—much needed.' It troubled him in his last illness that he could not present our President for the honorary degree.

About his last voyage he wrote: 'Cnossus is for professional archæologists, but the general view of the north coast of Crete and the snows of Ida is for everyone. Thence we turned back to the Adriatic, but had time there on the way to have the best part of a day at Spalato, a remarkable place, Roman buildings and later, all living happily together in a natural and unpolished condition. So back to Trieste. Lovely weather and light winds all the way.'

'But we ended badly, we had on board a man of about eighty, once a Fellow of Pembroke (Camb.); he never ought to have come, even with a son to look after him; fell ill during the voyage, and died the night before we reached Trieste. My wife and I, not being in a hurry, stayed two days at Trieste after the cruise, to be of any use we could to the son and daughter; we couldn't really do anything, but at least they were not alone in a strange place.'

In this unhealthy port he picked up a most virulent microbe, and from the illness which followed he never rallied. The delay in Italy—his act of thoughtful kindness—brought about his death.

G. E. W.

As one of those who went to Oxford after the War, I should like to say how deeply the small circle of undergraduate mountaineers

feel the death of Dr. Godley. By us young men he was regarded as the head of the fraternity of mountain lovers in Oxford, and though belonging to an older generation of mountaineers, he was ever ready to give his support to, and often actively assist in, our youthful enthusiasms and enterprises. While he was unable to be a very frequent attendant at our meetings, he gave us his generous assistance on many occasions, whether in the organisation of an expedition to Spitsbergen or in the promotion of a memorial fund for vacation travel. The Mountaineering Club (which is composed almost entirely of undergraduate members) has lost one of its most enthusiastic and unfailing supporters, while many of its members, both past and present, mourn the loss of a real friend.

H. R. C. CARR,
Ex-President O.U.M.C.

Beddgelert. Oct. 7, 1925.

By kind permission of the Proprietors of 'Punch.'

A. D. GODLEY.

(BORN 1856. DIED JUNE 27, 1925.)

THE pageant of high summer glows and gleams
In Oxford's meads and on her sunlit streams,
But Oxford hearts are sad and heads are bowed
Under the shadow of a grievous cloud.

Scholars may come and go, but few, and far
Between, are born beneath a laughing star,
Like the bright spirit that we mourn to-day,
Never more wise than when his words were gay.

He wore his learning lightly, like a flower,
Neither ensconced within the ivory tower
Of pedantry, nor entering the lists
To joust with ponderous philologists.

He laughed at others' posturing and pretence,
Yet often jested at his own expense;
He loved the ancients and their golden tongue;
Rebuked and yet was tender to the young;

Faithful upholder of the antique ways,
Foe of extremes, and generous of praise
To those who from his torch their rushlights lit,
Aping his manner while they lacked his wit.

He craved no place, no honours, in the sun,
Yet sought new civic duties to be done
In war or peace, and laboured to break down
The age-long jealousies of town and gown.

Frugal of speech, yet, when the moment came,
Transfixing folly with unerring aim,
But lavish in the largess of his pen
To foster gladness in the hearts of men.

Not only in the jocund verses seen
By readers of *The Oxford Magazine*,
But in the rhyming letters sent to cheer
His friends, a legacy now doubly dear.

Long, long shall Oxford gratefully recall
The pen that never held a drop of gall,
The heart that never knew a thought unkind,
The mournful face that masked a joyous mind.

DR. JULES JACOT-GUILLARMOD.¹

1868–1925.

MEMBERS will remember the presence of this stalwart Swiss at the Winter Dinner not long ago. Early this year he attended a Congress at Cairo, and then went up the Nile, across Uganda, and down to Mombasa. Here he embarked for Europe and died off Aden of inflammation of the cardiac muscle.

By profession a medical man, his great interest in life was mountain travelling. He is best known for two journeys (1902 and 1905) to the Himalaya, which he described in 'Six Mois dans l'Himalaya, le Karakorum et l'Hindu-Kush,' a well-written and illustrated book. The party reached about 22,000 ft. on K². He retained the keenest interest in Himalayan travelling and possessed a fine collection of books on the subject. He was distinguished in other ways, was a Past President of the Swiss Geographical Society, Hon. Member of the C.A.S., and at the end of the war rendered yeoman service in proceeding, on behalf of the International Red Cross, to Siberia to trace the half million Austrian prisoners interned by the Russian Government. His contagious enthusiasm, frank manner, and absence of assertiveness gained him many friends.

¹ Portrait in the work quoted.

STANLEY BENJAMIN VAN NOORDEN.

1904-1925.

THE death of Stanley Benjamin Van Noorden is a loss which the younger generation of mountaineers can ill afford. The number of Cambridge men who have been introduced to mountaineering under his leadership is a testimony of his work in the University.

He was born on May 29, 1904, and entered St. Paul's School in 1918, where he obtained a Senior Scholarship. He went up to Clare College, Cambridge, in October 1922, as a Scholar. While still at school he had spent many of his holidays wandering about the Lake District, and one can remember his graphic description of the pleasure he had in crossing Striding Edge by himself when such a feat was the zenith of his ambition. From the time that he went up to the University the hills became his great interest in life. During the three years that he was up, all his vacations were spent in camping and climbing and his terms in reading all the mountain literature on which he could lay his hands. He began his serious climbing in the summer of 1922, when he climbed with a guide in the Dauphiné. Except when he traversed the Obergabelhorn in 1923, this was the only season that he climbed with guides, preferring to tackle peaks which were more within his own powers of leadership. At Easter, 1923, he started climbing in the Lakes, where his steady technique and sound judgment showed him to be one of those fortunate few, born climbers. In the summer of 1923 he joined the C.U.M.C. meet in the Graians, where his icecraft, which in the two following years was to be his strong point, showed little signs of developing. His instinctive knowledge of the route and his ability to stick to it in the worst of weather made him, however, an invaluable member of any rope. From the Graians he went with a party south to the Cottians, where, if the climbing is not very arduous, the solitude of the hills was undisturbed by other parties.

It was at Christmas, 1923, that he first conceived the idea of combining climbing and camping in the Lake District. With the help of a Ford car, a party was transported to Wastdale, where a more unorthodox but a more enjoyable camp has seldom been seen. It rained—or snowed—almost continuously, but his cheery optimism and happy anecdote made it one long joke. He was one of the party who tried their best to spend Christmas night on Pillar Rock, and who succeeded a few nights later in walking to Boot instead of Wastdale after having a heated debate on Burnmoor on the route.

The season in the Alps, 1924, was bad and he did nothing of great note; to make up for this he helped to carry a half-hundredweight of coal over Snowdon and encamped in the small cottage below Glaslynt. He proceeded to unravel the puzzle of East Peak Lliwedd; it immediately became his favourite British crag, and it was here that

he did his last climb—Avalanche route—a day or two before his death.

Early in April 1925, after some time at Wastdale, he went with a party to Scotland, attempting the Tower Ridge of Ben Nevis three times and only being turned at the third attempt after eleven hours' climbing.

In the summer of 1925 he and I had hoped to do great things, and although the weather was far from good we managed to put in a really good season. We crossed the Col des Cristaux and made an attempt on the Moine Ridge of the Verte; the conditions on the Ridge were very bad, and the snow made the going so slow that we were compelled to turn 400 ft. from the summit; and were not back to the Couvercle hut till 11 at night.

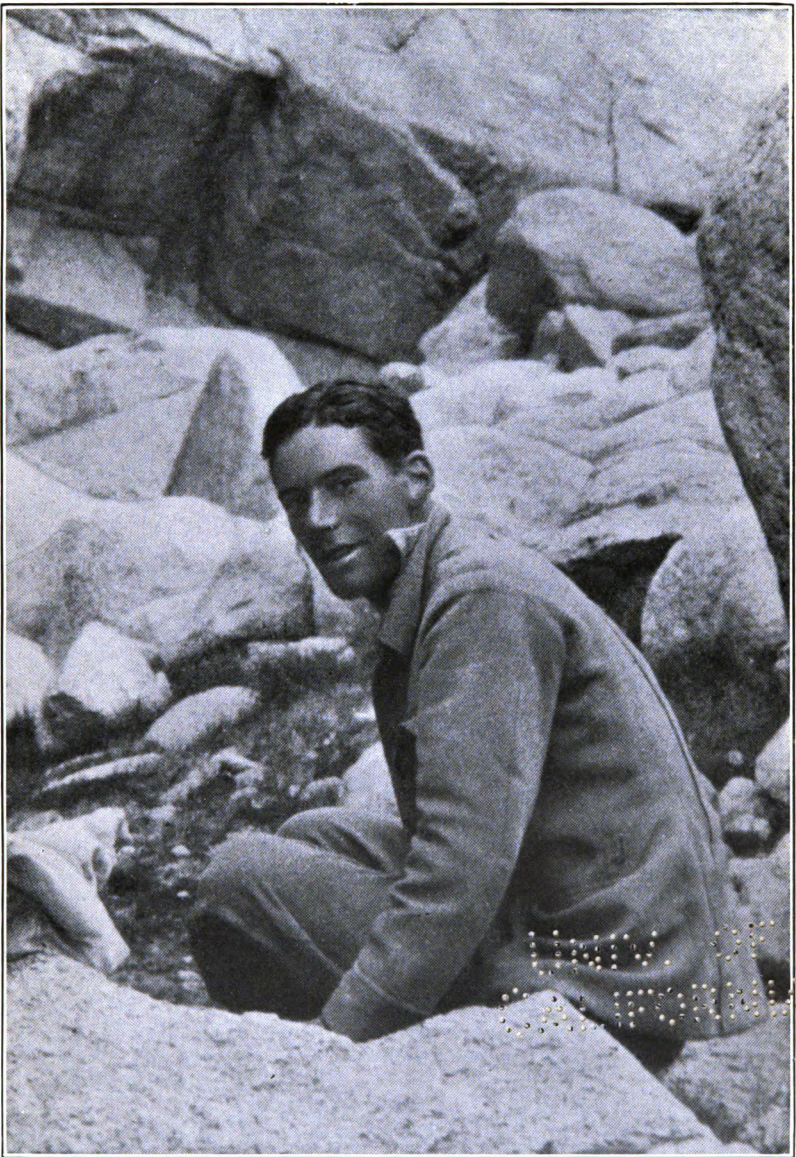
Crossing the Col du Géant we climbed the Aiguille Noire de Peuteret. The weather was holding for two or three days and we decided to tackle the Brouillard ridge of Mont Blanc. Having climbed the couloir to the Col Emile Rey, the gully which leads thence to the main arête above was found to be filled with overhanging ice, and an exit had to be found up the right wall. The holds were small and slightly glazed, but he led up it with a steadiness and care that one had grown to expect and require of him. Later at the Club Meet in the Arolla district, leading a party of three beginners, he had the unpleasant experience of having them all fall off together; he was able to hold them.

In bad weather his party crossed to Zermatt and during a short improvement he led Dr. Clark Kennedy, Edwin Kempson and myself up the Obergabelhorn, only to be chased off the top by a snowstorm. The weather continuing bad, he decided to take a short holiday in Wales as a make-weight; he had been climbing there a week when he was killed on the crags that form the rim of Lower Cwm Glas.

In 1924 he was elected President of the University Mountaineering Club; no one who was a member during his year of office will lightly forget the care he took to know everybody who wished to learn to climb and the hours he spent seeing that they were fixed up with a party for the vacation. He was also joint editor of the 'Oxford and Cambridge Journal.' His rooms were always open to visitors, and his Sunday mountaineering breakfasts from 10 till 1 will always be a happy memory.

It was not only his climbing ability that made him such an ideal mountaineer. His unflinching cheerfulness when personal comfort was lacking and his unobtrusive humour in every situation attracted everyone with whom he climbed. His real ability and his charm of modesty made him a delightful friend.

Although climbing was his great passion in life, he had many other interests of which he said little. He was a great book lover and read widely. Very few of his climbing friends knew that he was a musician of no small ability and that he was a musical critic on one of the



STANLEY BENJAMIN VAN NOORDEN.

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ROYAL ANTHROPOLOGICAL INSTITUTE

University papers. He took a first in Part I. Natural Sciences and read Physics in Part II., obtaining a second. We younger mountaineers have been deprived of a sound leader.

P. WYN HARRIS.

We are permitted to print a most interesting letter written by Mr. van Noorden to Mr. Geoffrey Young, describing in detail the ascent of the Brouillard arête by Mr. Wyn Harris and himself.

Mr. Young adds: 'It was a *magnificent* piece of mountaineering: for the mere size of those precipices and glaciers is daunting enough, apart from the bad season and the old tradition of their inaccessibility save in *exceptionally* favourable conditions. I think of the years before 1911 when all the world looked at it through telescopes, season after season, and turned away, or fought up as far as Col Emile Rey—and turned back! And the same would seem to have been happening since, till these two went and "rubbed their noses into it."'

HOTEL DU PIGNE,
AROLLA.

28/7/25

DEAR MR. YOUNG,—We were so pleased to receive your letter, for as yet we have had no one to talk to about the Brouillard—at Chamonix we had but a short hour after descent before we had to come on here, whilst to the Arolla type of mind, the Brouillard is less than a mere name.

Your letter encourages us to hope that a few details may not be boring.

The party consisted only of Wyn Harris and myself. We had practically no moon—it rose just before dawn, but we were continuously in the shadow of the ridge. We left the Quintino Sella at midnight exactly, and crossed the glacier by previously cut steps. The ribs of rock following were rather slow work in the dark, but once on the glacier we made fair progress. We had previously worked out a route through the crevasses, which was very fortunate, as they would have been extremely troublesome in the dark otherwise. With claws [crampons] the couloir itself gave no difficulty, the schrund being easily turned over to the right, and we arrived on the Col Emile Rey at 4.30 to see, on the far side, an amazing sea of cloud, tinged scarlet by the rising sun, which just swamped the Dames Anglaises, the Aiguille Noire looking a magnificent spire thrusting up through the cloud.

After a second breakfast we left (4.45) with some misgivings about the weather, and traversed (after weeks of anticipation) to the foot of the gully.¹ It was choked with great icy columns and

¹ [Cf. *A.J.* xxv. 736–7, where Mr. Geoffrey Young who, with the late H. O. Jones and Dr. Karl Blodig, with Josef Knubel, made the first ascent of the Brouillard arête on August 9, 1911, writes: 'The

pillars and, to our judgment, was quite impossible after one pitch. Harris tried a route on the left wall, but we were brought up after about 100 feet by an incoherent snow cornice. I then started up an icy pitch on the right wall, Harris led through me and up a difficult iced chimney to an icy platform with a big iced bollard for belay. I then tried a traverse to the right but was brought up after 10 feet by vertical rotten ice.

The last alternative was the wall straight above. I believe this was strictly vertical with the exception of a gangway sloping up to the right and outwards, about two feet wide, which finished about eight feet from the top of the wall. Only the first step of this was icy. Harris led up the gangway, but could not manage the wall above in his rucksack, for the finger strain seemed considerable. So he returned and I had a shot without rucksack and taking a shoulder for the first step to save time and strain. I found I could hold myself in at the top of the gangway by finger holds, and put one hand over the top of the wall, but there were no definite holds.

After a rest I had a second shot and quite suddenly found the solution in a long stride to the left to a fair foothold and then up easy rocks to finish the fifty-foot pitch.

I hauled up the baggage and Harris followed very speedily. It was here that a solitary stone fell with a smack a yard from us. This was all we saw fall during the day, but it made us hurry all together up the remainder of the wall of the gully, Harris cutting up an ice cascade in a chimney on the way—rather difficult—until, bearing left, we passed a *small* névé patch on the right. Here we unroped and wandered delightfully straight up to the Amedeo, keeping on the rocks just to the left of a *long* névé slope. We reached the Amedeo at 9.45 and had half an hour's halt.

At 10.15 we left on a short rope (I led) and were going well when we were enveloped in a very appropriate mist; but when we got higher—on to the less steep and snowy ridge before Mont Blanc de Courmayeur, the weather became worse and we were rather worried, not knowing the geography and thinking we should be already past Mont Blanc de Courmayeur when we were obviously

ascent of the steep and hitherto unclimbed gully which begins at a point slightly below and to the E. of the Col Emile Rey was begun at 5.15 A.M. The rocks were found to be dry and fairly easy, and the only real difficulty encountered was one steep slab about 30 ft. high with small holds which might prove impossible after snow or rain.'

The late H. O. Jones, *A.J.* xxvi. 255, writes: 'We learnt that Knubel was confident of being able to ascend the gully on the east, [right ascending] in the bed of which there was but little ice, and even of being able to reach the ridge by the more difficult route on the west [left ascending] of the Col. . . . we roped up and moved on to the foot of the gully. This we ascended mainly by its true right wall.']

not so. However, we put on claws again, Harris took the lead and we trudged on by compass until at 4.0 we decided that a number of bottles and sardine tins represented the summit [of Mont Blanc]. It took us $1\frac{1}{2}$ hours from the summit to the Vallot hut for we had to take great care over the compass—except in occasional ‘thinings’ we could not see twenty yards beyond our noses—and snow and wind made map and compass work quite trying. We reached the hut at 5.30 and decided to stop the night. Actually, we could have got to the Grands Mulets in another 2 hours, for just below the hut the usual groove-like track started down the soft snow.

It was a glorious day's work ; it was a pity we had to take heavy sacks—it spoiled our times rather—but we had no more time left to return to Courmayeur and had to take everything with us.

The weather has been horrible all the time—never more than 3 days fine consecutively. Consequently, in our 3 weeks at Chamonix we got very little done. Col des Cristaux, Col du Géant, Dent du Géant, Aig. Noire de Peuteret and attempts on the Tour Noir and the Moine ridge of the Verte. The latter was grand, but we were turned by time only 400 feet from the summit and got off the glacier at 9.0 P.M.

Arolla has been a pleasant interlude, but to-morrow we leave for the Bricolla to traverse Dent Blanche—we have had 2 days fine up to to-day and with to-morrow the West ridge might be in condition. The North ridge was actually on our programme for this summer, and given the weather, we are intending to have a very strong attempt on it.

Hoping to do several good ridges in the next fortnight.

Please excuse this very full and lengthy description ; when one starts to describe such a climb shortly it runs into an amazing length !

Mr. Geoffrey Young's own story of this great expedition appears in John Buchan's *Great Hours in Sport*. It will be reprinted in Mr. Young's forthcoming *Memoirs*.

WILLY RICHARDET.

1902–1925.

A YEAR ago we had to chronicle the fatal accident to young Rudolf v. Tscharnier. Now the sister University of Berne mourns not the least brilliant of the band of its sons who, the last three or four years, have been making Alpine history with a care and a finish that has evoked the sympathetic appreciation of us all. The tie between v. Tscharnier and Richardet, by a strange fatality, is joined once more. The two were comrades in a daring ascent of the Dent Blanche by the Vierelsgrat on October 12, 1921, in such conditions that they only reached the summit at 6.30 P.M.—bivouacked there—started again

at midnight by moonlight—were forced to bivouac again from 3 to 7 A.M. and then continued the descent, calmly and carefully, as a matter of everyday work. My friend Dr. Lauper, now of Zurich, the acknowledged mentor and leader, though only a little their senior, of these young University students, to whose notice of his young friend, written obviously from his heart, I am mainly indebted, has done well to print Richardet's own account of this great adventure. It shows us the man as he must have been. We go with him all day—we share his hopes—we shiver through the long-drawn bivouacs and then a sense of positive relief as the Wandfluh and safety are gained. There is not one superfluous word. It grips one as I have seldom been gripped by any mountain narrative.

Richardet was born and spent his life in Berne. As a boy his father initiated him into the delights of the mountains, and already as a boy he gave promise of quite extraordinary endurance which is, after all, the indispensable factor in great expeditions. At eighteen he went up to the University and Sunday after Sunday bent his steps to the mountains. In the winter of 1922 he became President of the famed A.A.C.B. or University Alpine Club. Winter and summer expeditions followed hard on each other. A fine swimmer, a brilliant skieur, he was always in hard training and yet such was his power of concentration, such his industry, that his studies never suffered and he passed out in March of this year as a fully qualified doctor of dentistry.

I cannot go into all the expeditions, running into hundreds, which this short Alpine career has to show. They are treated in more detail in my friend Lauper's admirable notice. But I must mention climbs like the ascent of the Ulrichspitze direct from the Ochsenenthal—Bradley could tell us of that—like the Guggi-Jungfrau—the unravelling, certainly with Lauper, of the intricate S. face of Bietschhorn (a masterpiece of Daniel Maquignaz's)—like Requin, Charmoz, Grépon just thrown in—like the E. arête and face of Schreckhorn, scene of Elliott's fatal slide, first ascended by the Pendleburys, then by Hermann Woolley and Chr. Jossi who, boldest of the bold, three years later, *descended* it with Claud Macdonald. By the end of the 1923 season he was a recognised past-master as instanced by an attack on the even still defiant N. arête of Dent Blanche, defeated a thousand feet below the summit, while most of the great Zermatt peaks succumbed.

The two seasons that remained to him were in the company of men whose experience and powers did not exceed his own, and who willingly recognised his full or even greater share in the lead. The N.-ice face of Blümlisalp, probably only possible at the season, was conquered with his comrades, Amstutz and Salvisberg, as recorded, 'A.J.' xxxvi. 401; then, with Dr. Chervet, the jagged S.E. arête of Jägihorn, which had defeated a Montandon with a Knubel—pretty useful pair—was ascended in 4½ hrs. The zenith of his powers is shown in the ascent of the N. face of Lauterbrunnen



Dr. Willy Richardet
1902—1925.

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Breithorn, again with Chervet, again as reported and illustrated in 'A.J.' xxxvi. 401. Those who know the Rottal, as I do, do not want telling what sort of job that was—never a decent hold in your hands—a 'steep iced step with tile-like stratification.' That is the sort of climb that tests, hour after hour, without mercy, the inwardness of men.

We, of our old Club, know.

There come his last few weeks. The present pages exhibit, in his own workmanlike letter to the veteran Montandon to whom all these young men seem to turn, the finished leadership on one of the famous of classic climbs, the Macugnaga face of Monte Rosa; then he and Salvisberg cut up the ice *Nollen* on the N. face of Mönch; while he and Dr. Lauper, safely returned from exile in the States, race up the W. ridge of Bietschhorn in 4 hrs. and stroll home down Mr. Coolidge's E. *spur* and over the Baltschiederjoch—*some* day!

Then comes the end.

None of these young Swiss and Austrian and German climbers seem to consider their courage and skill and endurance *tried out* till they have done the traverse of the Aig. Blanche and the Peuteret arête to M. Blanc—an expedition once described by Dr. Pfann, who has to be listened to, as the greatest, bar perhaps the traverse of the two Ushba summits. This seems to be a sort of Mecca, a lodestone to the true believer.

Alfred Horeschowsky, the Austrian mountaineer, whose competence as a mountaineer is not even exceeded by his brilliance and daring, had done it in 1923, and a few days earlier this season the expedition had been repeated by a party of young Munich climbers of the A.A.V.M. or University Club whose daring and undoubted powers at times seem to gallop ahead of their mountaineering experience. Youth will be served, and will grow to age and prudence and, maybe, sloth all too soon.

And so they set out from Bertolini's hospitable roof in the cloudless morning of August 8. They follow the well-remembered path, pass the lower bivouac just above the Brenva glacier bank, and by 7 p.m. have made their gîte at 3700 m. on the E. face of the Aig. Blanche. The day was perfect. I was at Courmayeur and know. The party is Richardet, the equally stalwart von Schuhmacher and Amstutz, all tried comrades of many a great day, a very workmanlike team. But weather dogged their steps with that fatal, sudden turn over, the bugbear of the whole season. That same night thick mist came down like a pall—at 2 a.m. it started to rain and continued till 6. No one but a madman would have dreamed of proceeding on this, the longest climb in the Alps—and they were not mad but cool and careful mountaineers. So at 7 they started down in the full knowledge that, harmless as that face is in the cold early morning, the warmer, later hours might well bring disaster. They took the risks, open-eyed, not in ignorance; as older mountaineers, not once in their lives, have had to do. The mist still enveloped them, the trail was hard to follow, ears are scant

defence. All at once came the roar of stones—huge stones as Amstutz described to me. Von Schumacher jumped for safety with the others close behind when a stone as big as a man's head struck Richardet in the back and in an instant he died. Amstutz was a yard away. They dragged him to some sort of shelter, and it was two hours before they could bring themselves to leave him after covering his body with a coat. His belt and rucksack were cut right off by the stone and could not be found. His body was brought down by themselves and a party of willing guides two days later, and he lies at Berne among his own people.

Of the helpful sympathy of M. and Mme. Chablot, true daughter of Père Bertolini, and of the energetic practical help of their capable daughter who runs so smoothly the great busy Royal, one could not say enough.

What else can one, dare one say? It were an impertinence to offer to his parents any sort of consolation. They had brought up this only son, this stalwart six-foot youngster, to manhood, to the threshold of a useful career. In an instant he is cut down. They will try to understand and will bear as best they may. With his comrades of many a day of triumph it is different. To them we can talk. We can tell them that their loss is our loss—that we count such a life as much of our ranks as of theirs—that this young career may, in the history of mountaineering, be quoted in the years to come as an exemplar of endurance, of skill, of high endeavour, of reasoned care, such as brings credit on what we know to be unsurpassed as a refined and exhilarating pursuit for body and mind.

October 31, 1925.

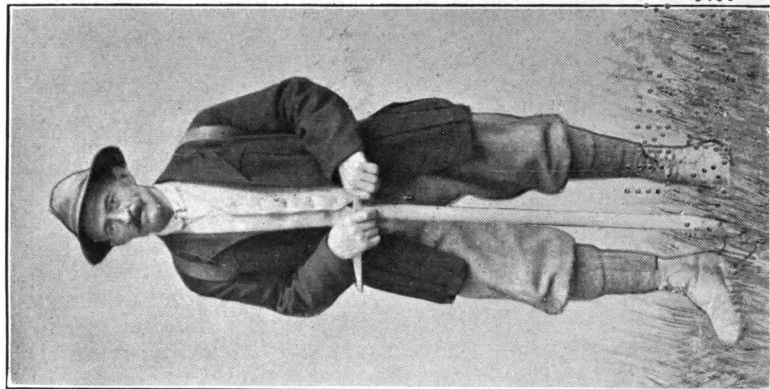
J. P. FARRAR.

ALFRED COUTTET

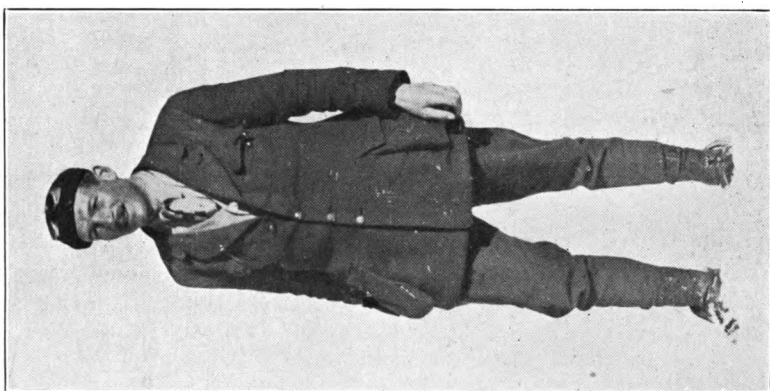
1896-1925.

By the death of Alfred Couttet, Chamonix certainly loses one of the most gifted and enterprising of its younger guides. His splendid physique was the basis of remarkable climbing ability, and his genial temperament made him at all times a very pleasant companion. In the last few years he had travelled with a large number of English patrons, not only on the ever-popular rock-peaks of his own valley, but to most of the varied ranges between the Dauphiné and Zermatt.

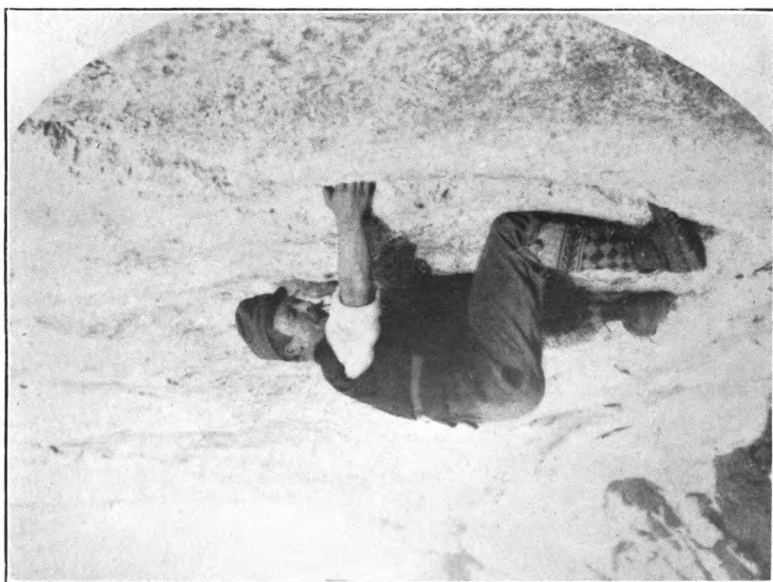
I engaged him in 1923 to assist me with the Oxford Club meet at Arolla, and his services were much appreciated by us all during the week he was with us. In 1924 he joined me in the Dauphiné at the end of May, when he and I together made an ascent of the Grand Pic de la Meije, said to be the earliest recorded in any season. Neither of us knew the mountain, and I was very well impressed with his able route-finding. His powers were put to a more rigorous test when he led my father and me over the Matterhorn in the following



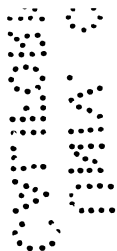
FRANZ PINGGERA.



ALFRED COUTTET.



HANNS FIECHTL.
Photo: G. Berthold.



July. We were caught in a severe storm above the Shoulder, and we had our work cut out to descend in safety even to the Solvay Refuge. Though our field of vision was reduced to a few feet by the driving snow-flakes, Alfred's steadiness and confidence were admirable, for it was his first visit to the mountain.

In common with many other English climbers, we mourn the loss of a good friend and an efficient guide.

H. R. C. CARR.

R. C. C. CARR.

In subscribing to the fund Mr. George S. Bower writes: "I have never had Alfred Couttet as a guide, but I have very happy memories of his unselfish sportsmanship in giving us sketches and the fullest possible particulars of the Aig. du Peigne and the Aig. Ravelin in 1924."

FRANZ PINGGERA

1881-1925.

A SAD accident, of which no details have reached us, but which appears to have been brought about by the notoriously rotten rocks almost universal throughout the Ortler Group, recently caused the death¹ of Franz Pinggera. The disaster occurred on one or other of the tiny Tabaretta pinnacles situated in the vicinity of the Payer Club Hut. Thus, a wretched and insignificant tooth has caused the loss of a guide, possibly the best all-round mountaineer in all Tirol.

Like the majority of Sulden men, Franz Pinggera was excellent on ice or snow, but very different from most, he was a first-class climber on any kind of rock, for which indeed he always affirmed his strong partiality. He was the second son of the famous Johann Pinggera, Payer's faithful companion, and the nephew of Alois Pinggera. That excellent guide, Hans Sepp Pinggera, was his elder brother, and his most friendly and devoted rival.

It is unnecessary to give a complete list of Franz's more difficult expeditions. These include all the hardest expeditions in the Ortler Group, among which may be noted the first ascent of the Ortler itself by the so-called 'Rothböckgrat,' or N.E. spur of the Marltgrat (1904), two ascents of the same mountain by the very dangerous 'Schückrinne,' at least a dozen ascents by the Marltgrat, as well as many routes up the Königsspitze, Zebbrü, Thurwieser, Trafoier Eiswand, etc. In other districts he had also travelled

¹ According to *Die Alpen*, No. 10, p. 251, Signor M. Giuliani of Naples perished at the same time.

extensively, accomplishing (1906) the first ascent of the Adamello by the N.W. arête.

In Switzerland, his expeditions include all the principal Pennines, among them the traverse of the Zinal-Rothhorn and back to Zermatt over the Trifthorn on the *same* day, the Lyskamm (alone with Mr. T. M. Kerne) from the Lys to the Felikjoch, the combined Grands Charmoz-Grépon traverses, the two Drus, Requin, Géant, Aiguille de la Brenva etc.

His best-known employers—to mention only British climbers, to whom indeed he was particularly devoted—include Messrs. T. M. Kerne, E. G. Oliver, H. E. Newton, E. L. Strutt and Geoffrey Howard.

He had, even among Tirolese, a wonderfully charming and refined disposition. His appearance was almost the beau-ideal of a mountaineer, while his handsome features recalled those of another departed and more exalted countryman. Bold, without being rash, the very personification of cheery optimism, he was fond of moving at a really tremendous pace on either rock or ice. He fought most gallantly throughout the war, latterly being stationed on the Ortler itself under the command of his brother, Hans Sepp, specially promoted Captain.

Franz Pinggera, who leaves a widow and five children, will indeed be sadly missed by a host of mountaineers and friends. It would have been hard to find, in the whole Alps, a simpler or more lovable character.

THE LATE SIR JAMES RAMSAY.—Reverting to the notice on p. 175, it is interesting to learn that his last work, 'A History of the Revenues of the Kings of England from 1066 to 1399,' on the proofs of which he was engaged up to the end, will shortly appear. His assistants in his literary work were his two elder daughters, Miss Ramsay and Miss Lilius Ramsay. They have just completed the Index of their father's latest work.

ALPINE ACCIDENTS.

THE DEATH OF M. RICHARDET on the Aig. Blanche is the subject of a notice on p. 353.

DEATH OF FRAU NOLL-HASENCLEVER ON THE WEISSHORN.—This enthusiastic and very capable mountaineer was overwhelmed by an avalanche in the following circumstances :

On August 17 the well-known German mountaineer, Herr Hans Pfann, Herr Trier, and she bivouacked on the Guggifuh rocks above Randa and reached the summit of Bieshorn at 11.40 next day. Threatening weather and the late hour made them abandon

their contemplated ascent of the Weisshorn by the N. arête, and they returned to the Biesjoch at 1.30, halting till 2.35. They decided to make for the Weisshorn hut by the route first taken by Mr. C. F. Meade's party in 1910—cf. 'A.J.' xxv. 275 (note) and 359, and the instructive sketch in *Alpes Valaisannes*, ii. 171. They crossed the ridge running N.E. from Pt. 3781, descended on the other side and proceeded to ascend the 300 to 400 ft. to the steep snow col between Pts. 3781 and 3365 (see Siegfried map and the above sketch), Trier leading, then Mme. Noll, and Pfann last. Toward the crest he bore slightly to the left and was about 50 ft. under the crest when suddenly, soon after 4, the whole snowfield, some 300 m. wide but only about 8 to 12 ins. thick, broke away some 30 ft. above him. The whole party was carried off their feet in the avalanche. Pfann, with desperate energy, managed to stop himself, but the pull of the rope twisted him round, breaking his thigh and hurled him through the air. Mme. Noll was buried in the bergschrund by the snow. Trier was buried upright up to his waist: Pfann came to a standstill on the upper lip. Trier worked himself loose and made desperate efforts to uncover Mme. Noll, but she was already suffocated. He then did what he could for Pfann, and reached over the same col at 8.30 the Weisshorn hut. One of the guides (Perren) of a party at the hut descended to the Valley, and the rescue party, including Mr. Versluys and his guides, reached the hut at 3.30 A.M. and the scene of the accident at 5.30 A.M. and got Pfann and the corpse of Mme. Noll to the hut by 10.

Herr Pfann, whose experience is unsurpassed, adds that the state of the snow did not indicate any danger, as the slope which faces N.E. had been in the shade for an hour, and there was no fresh snow. An old trail was still visible in the bare lower part of the slope in which he had to cut a few steps, but the ensuing steps in snow bore well, the foot sinking in only about 4 ins., while the axe-shaft found good bottom.

Frau Noll was buried at Zermatt, the funeral being attended by the whole community.

DEATH OF ALFRED COUTTET ON THE GRAND DRU.—This brilliant young guide was killed on September 2 in the circumstances now described:

'I stayed with Alfred Couttet, the charming and brilliant young guide we had taken at Chamonix, to traverse the Drus, Sept. 2. Conditions were perfect, and we were, at 6.45, within an hour of the top of the Grand Dru, and above the difficulties, when Alfred, leading with 13 m. of the new Everest rope out, pulled out a hold and shot clear over our heads. The rope caught and snapped 3 m. above the porter (who had it secured) and Couttet fell fully 30 m. in the first fall: being of course instantly killed. His body descended to the glacier in four or five leaps, about 300 m., where we recovered it, 2½ hrs. later.

'Couttet was insured, and we have added to his insurance all we feel we can; he left a young widow (he was 29) and a 7 months' old son. The Syndicat d'Initiative opened a subscription for them which had quite generous response; but there is still occasion for his regular clients to contribute if they feel so disposed.

' WILLARD HELBURN.'

A short appreciation appears on p. 356.

Couttet was a man of many friends, especially among the young French climbers of the G.H.M., who speak warmly of the friendly advice and information which he was always ready to give them.

Any further subscriptions can be sent to the Hon. Secretary.

THE DEATH OF HANNS FIECHTL ON THE TOTENKIRCHL.¹—The translation of the following remarks by Herr Adolf Deye, himself one of the most noteworthy of the latest school of rock-climbers, will serve as a tribute to the memory of a very remarkable guide:

'The undoubtedly most successful guide of the later Alpine developments, Hanns Fiechtel met with a fatal accident on August 1 in the Kaisergebirge. The reason was probably an attack of faintness on a not particularly difficult place [on the Totenkirchl] which his extraordinary powers would have found easy.

'The activities of Fiechtel extended over the whole of the Eastern Alps. He was one of those rare guides who did not climb simply for pay, but out of sheer Alpine keenness. Not only do we lose in him our best guide, but also one of our best mountaineers altogether. Many of his first ascents were done with other climbers for comrades, so that he missed many days' pay. In the company of the writer he carried through a series of successful expeditions in the Dolomites, including the conquest of the tremendous N. face of the Einserkofel by a new and magnificent route which even to-day counts as one of the most difficult in the Eastern Alps. His most brilliant performance in rock was the first ascent, with Herr Otto Herzog, of the S. face of the Schüsselkar-spitze in the Wetterstein group,² when the absolute limit of human endeavour was reached. Noteworthy are his climbs in the Zillertal group, including several new routes up the Feldkopf, and the first ascent of the N. face of the Seekarlspitze in the Rofan. Taking him all in all we may say that in him there ends as full a climber's life as has been vouchsafed to very few.'

¹ I am indebted for the portrait to Herr Franz Nieberl.

² See *Der Berg*, 1924, pp. 69 and 71, for details with illustration.

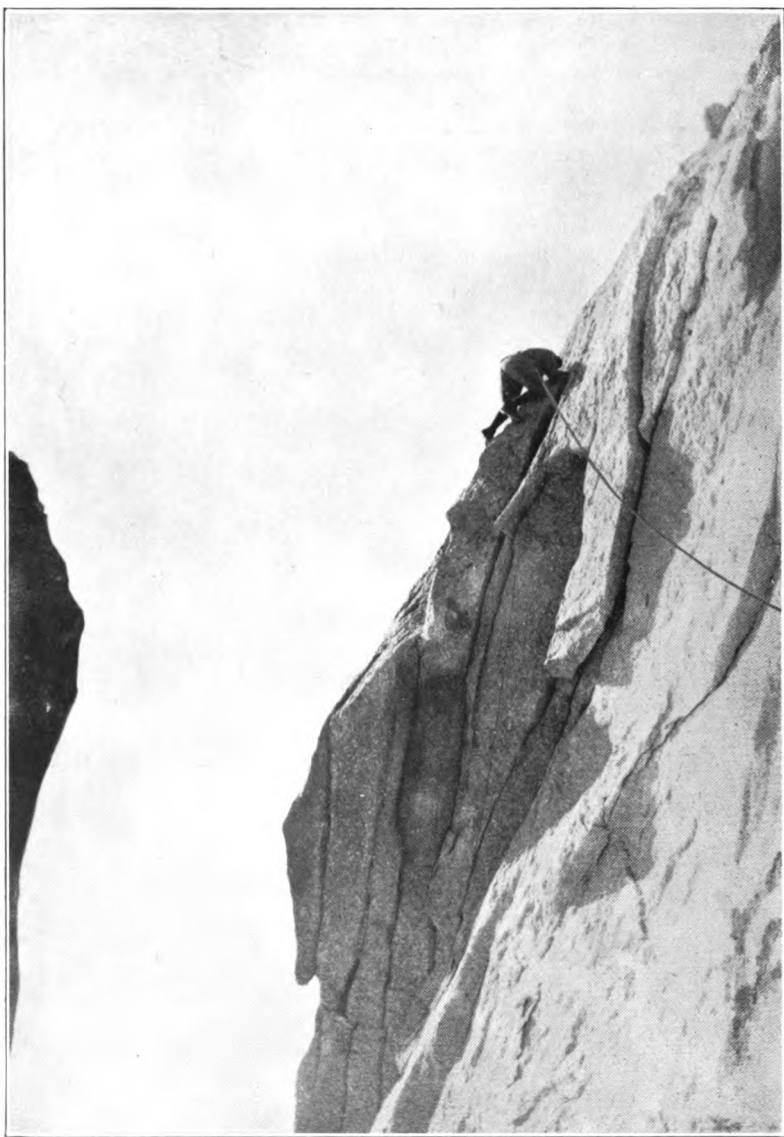


Photo: E. R. Blanchet.

ARMAND CHARLET
on L'Isolée des Aigs. du Diable.

Fiechtl was particularly known for the extension of the use of *pitons* in combination with *Karabiners* or oval spring-rings through which the rope is threaded on traverses which otherwise were beyond the power of any human being; indeed he brought their use to quite a fine art. The system is described and illustrated in Miss Bray's paper on the Kaisergebirge. He is spoken of universally as the most brilliant climber and a modest and reliable companion. He was always the first in every rescue party and ever ready to advise the guideless climber. He had never recovered from the hardships of the war and may have had a slight stroke on the easy Eggersteg where he fell. He was buried in his own village Münster near Brixlegg, close to the home of the late Mr. Baillie-Grohman. His name will go down as fit to rank with those of great rock-climbers like M. Bettega, Toni Dimai, Sepp Innerkofler, Angelo Dibona, and G. B. Piaz.

THE DEATH OF FRANZ PINGGERA ON THE TABARETTASPITZE is the subject of a notice by Lt.-Col. Strutt on p. 357.

NEW EXPEDITIONS.

Mont Blanc Group.

L'ISOLÉE¹ (4114 m. = 13,494 ft.). Group of the Aiguilles du Diable.² July 14, 1925. Mr. E. R. Blanchet with Armand Charlet and Antoine Ravanel, of Argentières. From the M. Blanc du Tacul descend without difficulty to the Gap N.W. of L'Isolée, which is the first of the five Aiguilles. Descend an easy 15 m. couloir on E. face, then horizontal 8 m. traverse along the base of the Aiguille. Climb straight up difficult fissures to a little flat where one can rest. During this first bit one is secured from the gap. From the flat continue up more difficult grooves; small overhang turned on left. One then reaches a 2 m. fissure closed by a second overhang—turn this also on left by jamming an axe into a groove 1 m. more to the left, hoisting oneself first by left and then by right hand (very delicate, *extraordinarily* difficult); then ride up an almost holdless arête (very hard; see illustration where the climber is turning his back to the Pointe Carmen). Next a 2 m. fissure climbed by means

¹ This was the highest unclimbed point in France.

² Cf. M. Henry Bregeault's admirable article with skeleton map, based on the Vallot Survey, in *La Montagne*, October 1924. MM. J. de Lépiney, Lagarde, Chevalier and he made the first ascent of the Pointe Carmen. Cf. also Commandant Gaillard, *Massif du M. Blanc*, pt. 1, p. 184, for description and sketch.

of a little chockstone on its summit. Serious difficulties now end and the rock from smooth and clear in colour becomes tawny and rough 30 m. to the top. A 35 m. spare rope is needed for the descent so as to avoid (on the left descending) the difficult passage. Times: Géant inn, 0.10; M. B. du Tacul, 5.10; L'Isolée, 8.20; M. B. du Tacul, 10.30; Géant inn, 14.10; Montenvers, 19.45.

AIGUILLE VERTE (4127 m. = 13,541 ft.). First complete ascent by the arête des Grands Montets.¹ August 9 to 11, 1925. MM. Dalloz, Lagarde and H. de Ségogne, all of the G.H.M.

The party left Montenvers at midnight and gained at 6 A.M. the Col des Grands Montets and soon after an open gap on the W. arête of the Petite Aiguille Verte quite near to its summit. From here a sort of *vire* continues all along the Nant-Blanc [or S.W.] slope of the Grands Montets arête as far as the foot of the point, which the present party have named Pointe Farrar.² It is not so much a *vire* as the upper limit of the slopes of rock mixed with snow which there become vertical, smooth and dry up to the crest of the arête.

They followed this *vire*, well marked at first, as far as the edge of a couloir, then descended into this and climbed the wall on the other side until they had regained about their previous height. The way must then be sought by effecting a delicate traverse on slopes of rock mixed with snow and crossing several couloirs. Care not to mount too high and to arrive too soon on the arête. One then attains a couloir bounded on its left bank by the base of the Pointe Farrar. Mount this couloir and the *verglassées* chimneys which succeed, and gain the main arête N. of the Pointe Farrar which is turned on the Argentière face, 12.30-13.30.³ Mount then to the gap N. of the Aig. Carrée. Near the arête and on the N.E. [or Argentière] side a chimney of *verglassées* rocks rises towards the summit. Take to this and thus gain an open window on the Nant-Blanc side. The summit of the Aiguille Carrée is about 30 m. from this. On the Nant-Blanc side of the Aiguille follow a fissure which fines out so as to become a mere *boîte aux lettres* convenient for the hands. A short chimney leads to the top of the Carrée (incomparable panorama). Descend the S.W. face of the Carrée. A handy piton permits of roping down as far as the couloir which starts from the

¹ [See *A.J.* xxxiii. ill. opp. 383. This shows the upper portion of the arête taken from the opp. or N.E. side. The whole arête is well seen from Montenvers.]

² [*Ibid.* It is the little pointed summit on extreme right, about 3680-90 m. See note p. 363. The point next above it is the Aiguille Carrée 3708 m. (3716 m. Vallot).]

³ [I am disappointed to find my comrades of the G.H.M. disdained to ascend my Pointe!]

gap S. of the Carrée. Effect on the Argentière side a delicate traverse and gain the foot of a couloir which leads towards the arête to the N. of the lower group of gendarmes composed of 3 points. Turn the first of these points on the Argentière side and the two others on the Nant-Blanc side. 20h.-6.15, bivouac between two of the points. One gains in this way the gap at the foot of the Pointe de Ségogne, an upper group composed of two points. Thanks to snow the party were able to climb this point by means of a delicate and dangerous traverse (9.30). Alternatively cross an extremely difficult slab by taking a back up—very ticklish.⁴ Gain thus the summit arête which ride up climbing one difficult step before reaching the summit [of the Pointe de Ségogne]. A double rope is handy for the descent to a very steep couloir below the Col (10.30-11.30), which then gain and mount the final Calotte. The slope is steep and the *rimaies*, which cut it, often bad. Summit of Verte, 13.30-14.0. Couvercle, 19.30.

A few days later M. E. de Gigord, G.H.M., with the very capable young guide Armand Charlet of Argentière, repeated the ascent. With better conditions and some knowledge of the route they reduced the time by about 8 hours.

NOTE.—The Pointe Farrar was reached first on August 19, 1898, by myself with Daniel Maquignaz and young Kederbacher. We left a bivouac below the Col des Grands Montets at 5.20 A.M., reached the Col at 7.20, and then made straight up snow slopes to the N.E. corner of an arête of rock running S.W. and N.E. This we followed on its left side, having on our left a steep snow couloir. Our arête turned then due S. and we reached by a steep snow face the commencement of the rock arête⁵ seen from Montenvers looking on to the Dru (9.25-50). We climbed a difficult *dos d'âne* but were forced to descend on the Dru side and gained by a long, difficult traverse the arête above an impossible gendarme 1.5 P.M. We then followed the arête (difficult) up slabs and cracks to top of Gendarme point 3708 [this is a mistake, see Note 2] 2 P.M. Below this [*i.e.* next above] a gap, cut off, and above that another gendarme about 30 m. higher, but impossible to outflank [this is point 3708 or, as named later by M. E. Fontaine, the Aig. Carrée]. Its face is seamed [on the Argentière side] by a very steep crack, which, however, stops short of the top. Left 2.45, arr. Petite Aig. Verte 5.40-55 and Lognan 8 P.M. The gendarme we reached was the third from the snow summit of the Verte, two remained undone.

⁴ The second party finding the snow melted adopted this alternative.

⁵ Plainly shown in the view taken from La Floriaz, *Boll.* xxxvii. opp. 322.

Our route was apparently different from that of the present party who gained the main arête a good deal higher than we did. We could not see any way down the vertical drop of 40 to 50 ft. into the gap between our summit and the Carrée. We had no spare rope ; we were also late, and after a very hard season were much disinclined for the certain bivouac had we proceeded, so we made little demur to turning back. We left some paper on the top with one or two stones to keep it down—there were very few stones. When I said two gendarmes were left undone I was looking at the arête end on, which produced that effect.

The name Pointe Farrar is adopted against my wishes as I pointed out to my friend De Ségogne that, quite different from these young independent French mountaineers, I was led by Daniel Maquignaz who had in his day no superior and to whom the Pointe belonged, as I should never have got there or even started without him. However, de S. asserts there is already a Pointe Maquignaz, and as it is quite impossible to treat with brutality all those gentle and persuasive arguments of which he is a past master and there is no other way, I made no further protest. He is a great diplomat although at present his services are at the disposal, I feel sure with effect, of the French Treasury.

The Aig. Carrée was first climbed by the eminent French mountaineer, my friend M. Emile Fontaine, with Jos. Simond and Jos. Ravel, on July 11, 1899. His account is in *Echo des Alpes*, 1911, 148 *seq.* They gained from Monteners the gap above the Carrée and had then a hard climb at first up its S.E. face and then bearing N.E. gained a narrow *vire* leading spirally to the crest.

On July 28-31, 1904, my friends, Si. E. Canzio, G.-F. and G.-B. Gugliermi and Professor Lampugnani (in the war the brilliant commander of a regiment of Alpini), the distinguished Italian mountaineers, gained the Grands Montets arête above the broken rock arête which succeeds the Carrée, and so gained the Verte itself. See *Bollettino C.A.I.* xxxvii. 314 *seq.*, with several illustrations and a *pointillé*.

Thus these young French mountaineers have now completed the arête, viz. the bit between my summit and the Carrée and the bit beyond the Carrée to the end of the rock arête. It is a great expedition well carried out and it is eminently satisfactory that it has fallen to them to complete the work. They are good workmen.

Its seriousness is not diminished by the fact that even when you have reached the top of the Verte you are not out of the wood. De Ségogne tells me that they descended in the great couloir close along the rocks of the Moine arête, safeguarding themselves all they knew by the rocks. His observation was that the snow on this side lost the sun earlier than on the other (usual) side of the couloir and was hence more usable. It will be a fast party that goes in

the day from the Col des Grands Montets to the Couvercle, and one will do well to count on at least one bivouac. It is quite a justifiable expedition.

J. P. F.

LATER.—I learn that the same party, in some cases with other friends, did this same summer the following splendid expeditions:

First ascent from the Gl. Noir of Pic Salvador Guillemin.

Second ascent of Ailefroide by the arête de Costerouge (the Mayer-Dibona route, see 'A.J.' xxvii. opp. 438).

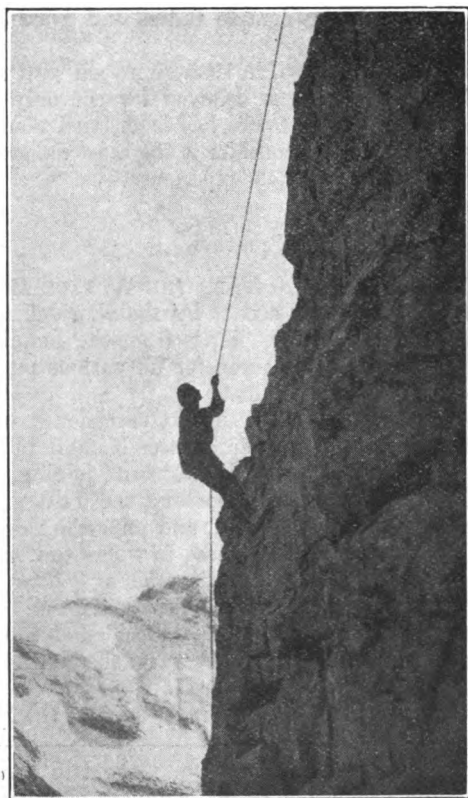
Ascent of Grépon from the Mer de Glace.

First ascent of Bec d'Oiseau.

CORNE SUD DU CHAMOIS DE TENNEVERGE (2526 m. = 8285 ft.).
October 4, 1925. M. E. R. Blanchet with Armand Charlet and Antoine Ravanel.

Seen from Sixt this tower resembles a limestone Dru.

From the Col de Tenneverge in 45 mins. to the foot of the couloir



CHARLET AT FOOT OF THE 35 M. PRECIPICE.

(take its left furrow), which leads to the gap between the S. and N. *Cornes*. The climb leads up the N.E. face which is vertical. It is made up of—

First, a transverse from right to left of 25 m. which includes grass, a very dangerous *vire*, a slab impossible without *Kletterschuhe*. Secondly, an ascent of 35 m. to the final S. arête. This ascent comprises: a little overhang, a little overhanging chimney, a long oblique chimney (from left to right) bent at its upper third, a little slab and a short overhang. From the arête a few metres to the summit which is to the right.

For the descent use the double rope 35 m.,¹ absolutely vertical (thus a rope of at least 70 m. is required).

Times: Left the gap between the two *Cornes* 9.30, reached summit 11.30.

The danger is enormous, for on all the difficult passages the rare holds break off. The rock is smooth, friable. A fossil (a crushed ammonite) was found on the summit, a rare occurrence in this region. The final arête is almost horizontal and forms three summits. It is an arc of considerable radius and grass grows on it. A great cairn was built.

The other *Corne* was climbed in 1905 by myself with Emile Revaz and Alexandre Bochatay, it is believed for the only time. It is much less difficult. The S. *Corne* has been tried many times, including twice by myself. I consider it the most dangerous and the most delicate climb in my whole experience.

E. R. B.

Pennines.

WEISSMIES (4031 m. = 13,226 ft) BY THE W. FACE AND N. RIDGE. August 13, 1925. The only ascent by the N. ridge mentioned in Dr. Dübi's 'Alpes Valaisannes,' iii., is from the Laquinjoch. The ridge is a long one, the times given for its various portions adding up to six hours exclusive of halts.

Two ribs on the rocky W. face suggest variations; one overlooks the Hochkraut (Hohlaub) glacier on the N. and in view of the Laquinjoch, and starts from about 3250 m., joining the N. ridge at Point 3712 m., the other overlooking the Trift glacier on the S., which starts from about 3400 m. and joins the ridge at a point which must be at least 3900 m., close to where the snow becomes continuous. Between the two ribs is a bit of glacier which might belong to either the Trift or the Hochkraut glaciers.

We left the Weissmies hut at 6.15, undecided as to our choice of route. We chose the first rib, because we reached it first and because it was more defined and obviously safe from stones. It involved the traverse of a long stretch of the rocky part of the N. ridge; this

¹ L'Isolée requires a double rope 25 m.; the Dru traverse 15 m.; the Grépon Grand Gendarme 18 m., Knubel's chimney 15 m.

may or may not be taken as a recommendation. We began its ascent at 7.45 and reached a small gap in the N. ridge at 9.30, just to the right (S.) of Point 3712. This point is not mentioned in the guide-book, but the gap we reached is probably the 'échan-crure,' reached in 1 hr. 55 mins. from the Laquinjoch. Other details are hard to identify; no 'long snow arête, turned by the W. rocks,' any longer exists, and this year was certainly not a dry one. The rock and the climbing is of excellent quality. At an overhang, which must be the place where the guide-book mentions a doubled rope as being used, a short descent and re-ascent needs care but would not be counted difficult by expert cragsmen. A tower, no doubt the 'tour toute cuirassée de dalles' and which 'ne semble pas accessible directement,' is sufficiently exposed and difficult to extend a leader of moderate capacity and advanced years. Beyond this tower a route by the second rib on the W. face would probably come in, and so avoid all the difficulties on the N. ridge, which soon becomes the edge of the snowy N. face of the mountain.

We took from 10.15 till 12.45 to traverse the rocky portion of the ridge and reached the summit at 1.30. Apparently the N. ridge is seldom climbed. If the above route is followed the climb is not a long one, it is interesting and the views are magnificent.

R. L. G. IRVING.

H. A. HAWORTH.

G. S. P. HEYWOOD.

RAUTHORN (3269 m. = 10,722 ft.) BY E. ARÊTE, AND GRIESSER-HORN (2843 m.). August 27, 1925. The interest of these points is that they indicate a good route from Saas to Simplon Kulm without a long walk up the road from a point close to Simplon Dorf. The motor passes soon after 3 o'clock, a shockingly early time to end a climbing day!

The making of the route from Saas failed. Mist and an icy wind was encountered on the Rossboden pass, and a rucksack, carelessly deposited, took the line of quickest descent over the big rock-wall on the E. The party, a very large mixed one, descended by the snow of the couloir a little way to the N.E. of the pass, an even quicker route than the usual one by the rocks on its right bank, if the snow is good. Failure to find the rucksack, in spite of prolonged search of the E. wall, and a long trudge up the Simplon road against a strong wind led to the completion of our intended route next day.

Mr. H. A. Haworth and I left Simplon Kulm at 8 A.M., walked over some minor summits, including the Galenhorn ('Alpes Valaisannes,' iii. 371, says 'pas de renseignements') and the Sir-woltenhorn to the small glacier on the N. face of the Rauthorn. We crossed this and climbed its E. arête, which is short and pleasant. The descent of the S. face and the ridge to the Rossbodenpass is

quite easy ; we reached it at 2 o'clock. Having carefully followed the route of the rucksack over snow and rocks that in one place were exceedingly steep we found it in the bergschrund. We then crossed the glacier and made a laborious ascent over steep but easy rocks to the foot of the E. ridge of the Rauthorn. From there we followed the easy ridge eastwards to the Griesserhorn ('pas de renseignements'), and over it to the col below ; thence over snow and a small glacier to the moraine at its foot. Near this on the right (S.), we found a track leading down and across the face of the cliffs to the pastures and a path which led to some houses just below the Simplon road where it bends north-eastwards, quite near the old Hospice.

An excellent route therefore from Saas to Simplon Kulm by the Rossbodenpass is to follow the ridge N. from the pass, go up the S. face of the Rauthorn, down its E. arête, and along the ridge E. to the Griesserhorn and down as above. Four hours should be an ample allowance of actual walking from the pass to the Kulm. The Rauthorn is a fine view-point.

R. L. G. I.

COMPLETE TRAVERSE OF THE POINTES DES BOUQUETINS FROM THE SOUTH.¹ July 21, 1925.—Mr. I. A. Richards with Joseph Georges le Skieur.

'We left a bivouac on the moraine of the Upper Arolla Glacier above the Plan de Bertol at 4.10 A.M. A rocky promontory (Pte. 3097 A.S.), separated from the W.S.W. ridge of the South Peak by a well-marked col, is a prominent object from the Plan de Bertol. We gained this W.S.W. ridge well above this col by traversing the W. face, taking to the rocks at the prominent spur to the N. almost directly below the summit. It would be equally possible to follow the W.S.W. ridge from the col, but of this we were uncertain from below. The rocks of this traverse were rather full of *verglas*, but not difficult, and the shoulder was reached at 6.0.

'The S. ridge was now joined by an interesting climb over magnificent rocks, and followed over Barnes' Peak, P. 3600, to the foot of the notorious obstacle (8.10), which has hitherto been only *descended* by a doubled cord.

'This perpendicular step in the ridge can perhaps be turned at two levels on the right flank. Joseph preferred to attack it direct. A narrow edge springs upwards for 45 ft. It is furnished with small sloping knobs which the feet can use, but hand-hold is exceedingly poor and everything is the wrong way up. The take-off, however, is from a good ledge with a fine belay ; 8.20 saw us past the difficulty, and happy progress was made to the summit of the S. Peak, where a halt was made (9.10–20). The arête thence towards the Central Summit gives as good climbing as can be found anywhere ; always

¹ See sketch, *Alpes Valaisannes*, ii. 11.

amusing, sound, nowhere of great difficulty, and plenty of it. The foot of the steep wall leading to the Central Summit was reached at 10.20, and this summit itself at 11.10, a slight diversion on the right (E.) flank being made in order to use the grand staircases of glorious granite which can there be found. After a rest the North Summit was gained in time for lunch (1.0 to 1.30) and the Bertol Cabane for tea (3.40), just in time to escape the wettest part of the afternoon's thunderstorm.

'The traverse, omitting the North Peak, has since been repeated twice under the same leadership.'

COMBIN DE CHESSETTE¹ (abt. 4100 m. = 13,518 ft.). ARÊTE DE BOUSSINE. July 17, 1925.—Mr. I. A. Richards, with Joseph Georges le Skieur.

'We left an exceedingly comfortable bivouac on the upper grass slopes under the Tour de Boussine at 3.50 A.M., and gained the small glacier which flanks this mountain on the S. by way of a wide stone shoot and couloir (no difficulty) between the foot of the E. ridge and a small, nameless point. On the glacier impenetrable fog compelled a halt until 5.40, when the mountain reappeared. A buttress of fine shale just to the right of the big central snow couloir in this S.E. flank of the mountain was ascended to the ridge. The summit of the Tour was gained at 7.30. This mountain by no means deserves the abuse which it has received. Its shale is far preferable to most débris and it gives a quick approach to the main ridge. From the Tour to the final obstacle of the Boussine ridge is a magnificent walk along an arête as fine as the Wellenkuppe-Gabelhorn or Lyskamm arêtes. The obstacle itself consists of an extraordinarily steep boss of cliff rising some 450 ft. in all. At the point where the snow-ridge abuts on it the rock is too steep and disintegrated to be used. After some efforts and researches, much hindered by a return of the fog, Joseph descended a steep little wall of ice on the left by the aid of the rope and advanced, unroped, over easier ground to make a reconnaissance. But tempted by the hope of reaching a good position above the rotten section in which I might, by the aid of the rope, directly rejoin him, he became gradually involved in climbing of a very unusual intensity. Fortunately the rock became sound. Before long a slight shower of rain, by moistening the rocks, made the possibility of a safe descent for him within any reasonable length of time very problematical. He continued, therefore, over rocks which never allowed any choice of route and rarely offered more than the minimum of necessary hold. This difficulty continued almost to the summit, which he reached at 11.0, after 2 hours of unremitting effort. The thick mist and the acoustics of the cliff made communication between us very sketchy,

¹ See sketch map, *Alpes Valaisannes*, i. 110, and sketches, *ibid.* i. 121 and 123.

and I was naturally much relieved to hear his cries from the summit. He then rejoined me by a fancy route, which he does not recommend, among minor ridges and gullies in the direction of the Col du Croisbant. It was a great pleasure to haul him up the little ice-slope again safe and sound! By this time (12.40) the weather had turned thoroughly bad, so we descended to pass a second night in our bivouac.

'In the peculiar circumstances, and in view of the nature of the *terrain*, I have no question that Joseph's decision to advance was the only one possible. Nor was the step by which he originally cut himself off an error. I have his promise, however, that a taste for dashing off alone round corners to see what is the other side will be moderated in future! His regret that I should thereby have lost so marvellous a climb was extreme. As to its difficulty, I gathered four days later, on the Petit Bouquetin, that *most* of it was even more delicate than the hard passage there, which makes me doubt whether a safe descent without a rope would ever be possible for anyone.'

BRUNEGGHORN (3846 m. = 12,615 ft.). N.E. face. August 14, 1925. Mr. E. R. Blanchet with Caspar Mooser of Täsch.

This ice-slope, covered at the start with good snow, is well seen from the rail between Stalden and Kalpetran.

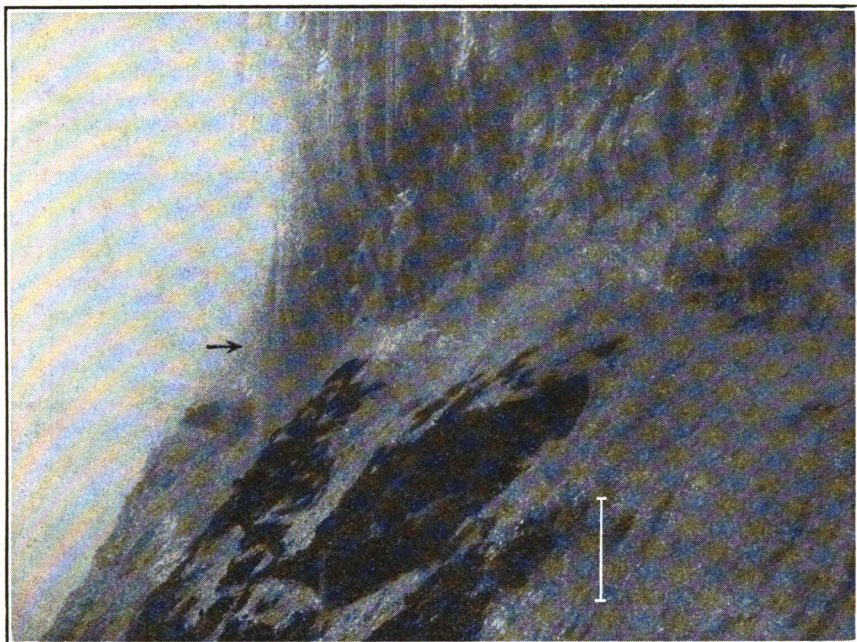
Left Boden 3.30 A.M. for Bruneggjoch. At 8.35 attacked base of slope, 9 put on crampons, 9.30 big crevasse. Slope now steepens and snow turns to ice, more and more hard. Continuous step-cutting 9.30 to 13.55, when we gained the top, the last 5 minutes up the N. arête to save a little time. The last 15 m. of the slope took 30 minutes! Left top 14.30; Bruneggjoch, 15.30; St. Nicolas, 19.30.

GRAND COMBIN. AN ATTEMPT BY THE ARÊTE DES MULETS DE CHESSETTE.¹ July 15, 1925.—Mr. I. A. Richards with Joseph Georges le Skieur.

'We left (at 6.15) a bivouac high up on the S.E. ridge of the Tournelon Blanc, and by the glacier of that name gained (7.0) the long, snowy ridge which runs southwards to the Combin of Chesselte. Our aim was to examine the ice-bulge which is the obstacle to an ascent by this ridge. Excellent snow after a night of hailstorms allowed quick progress, though the last thousand feet up the very steep slope to the foot of the ice-bulge (8.40) were soft. The bulge itself is insuperable, but an expanse of steep, smooth slabs on the left might well be possible under exceptional conditions. On this occasion it was plastered with *verglas*, and moreover large icicles from the wall above were sweeping it from time to time. A tentative trial convinced us that retreat was necessary. An attempt up a cleft in the ice-wall on the right also failed. The slabs seem the only chance, but when they are dry the slopes below the wall are likely

¹ See map, *Alpes Valaisannes*, i. 110, and sketch, i. 123.

to be ice, in which case many hours would probably be spent upon them. They are much steeper than a distant view would suggest. The approach, either *via* the Tournelon Blanc Glacier from the E.,



The Great Ice-bulge about 120 ft. high and draped with icicles thicker than a man. The traverse to turn it is towards the corner indicated by the arrow about 200 ft. much exposed to falling ice. The upright line is about 6 ft. The bulge is visible in sketch. *Alpes Valaisannes*, i., 114, just under O of 4078.

or from the Panossière Cabane, is easy and quick, but the great couloir¹ which falls from near the foot of the obstacle to the Chessette Glacier was, when seen from above and carefully examined, evidently a death trap from stones and full of bad snow and ice, even at this time of the year.'

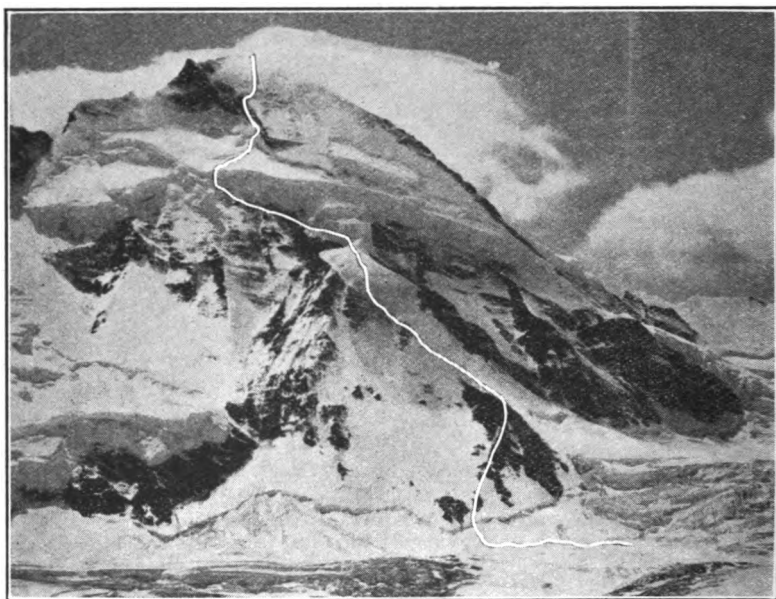
DENT D'HÉRENS (4180 m. = 13,715 ft.) BY THE N. FACE DIRECT. August 10, 1925. Dr. Allwein and Herr W. Welzenbach, A.A.V.M. The N. face of the Dent d'Hérens carries at about three-fifths of its height a glacier corridor running from W. to E. This corridor falls away in a tremendous ice-cliff about 50 metres high and partly overhanging.² Below the corridor, a rib runs down the N. face, the

¹ Just left of 3695 on sketch, *ibid.* i. 123.

² This corridor had already been gained on August 2, 1923, by Captain Finch and his companions from the upper basin of the Tiefenmatten glacier and was followed right up to the E. ridge.

top of this rib being crowned by a steep and broken hanging glacier. Before reaching the Z'Mutt glacier, the rib divides into two branches. This rib, and particularly the E. branch, affords a line of ascent to the corridor. Above the corridor, the N. face is practically featureless, and the last part of the ascent was carried out straight up this face.

From the Schönbühl hut, one follows the route to the Tiefenmatenjoch to below the first ice-fall, turning then to the left towards the foot of the N. face. The N. face is attacked W. of the enormous



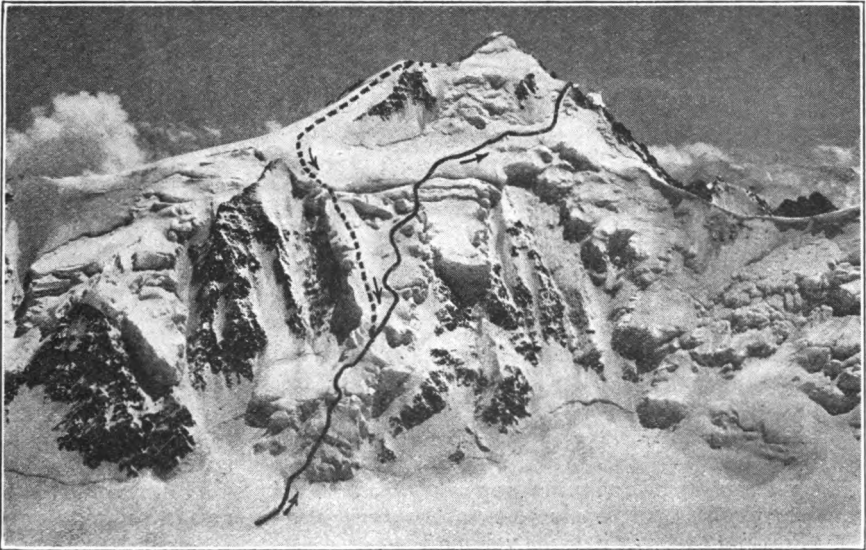
cone of avalanche remains which is probably a permanent feature. After crossing the bergschrund and mounting steep-fluted snow-slopes, the lowest rocks of the E. branch of the rib are gained. The rib is not at first well defined, but soon develops into a sharp arête. One mounts up the rib, partly over loose blocks, to the junction with the other branch. Above this point, mount over the fall of a narrow hanging glacier lying over the rib. Then traverse to the left, later mounting over ice and ice-worn rocks until close under the overhanging ice-cliffs of the corridor (about 150-200 metres; extremely dangerous in warm weather). Then follows very difficult ice work over cracks and vertical ice-cliffs for about 40 metres over the almost vertical cliff until the corridor is gained. According to conditions, it may be advisable to leave the rock-rib at its end without going over the hanging glacier; then to mount directly

up towards the main ice-cliff. In any case, one should not be tempted to follow the apparently easily climbable hanging glacier to its end, because it is separated from the corridor by a deep crevasse and an unclimbable ice-cliff. It might be possible, according to conditions, however, to overcome this section.

On the corridor, one circumvents a few crevasses to the right and mounts towards a gully which falls away from the ridge between the summit and the great gendarme immediately E. of the summit. Mounting directly upwards over an ice-slope, gain the rib lying to the W. of the gully at a suitable place. Follow this rib for a few rope-lengths, then work out slightly to the right and finish up over steep slabs straight up towards the summit. The ascent of the 400 metres high, about 60 degrees steep, final section of the N. face was under the conditions (deep new snow and *verglas*) extremely difficult and unpleasant. The total height of the N. face is 1300–1350 metres. Times: Schönbühl to bergschrund, 2 hours; bergschrund to summit, 13½ hours, of which two hours may be reckoned as lost in prospecting, etc. The climb is one of the most wonderful and most difficult ice climbs in the Valais. Three ice-pins were employed as belays in overcoming the middle section.—From *Der Bergsteiger*, September 11, 1925.

Bernese Oberland.

ALETSCHHORN (4182 m. = 13,721 ft.), BY N. FACE. August 9, 1925.—Mr. E. R. Blanchet with Caspar Mooser and Adolf Rubi (porter). Conditions excellent, hardly any hard ice; the first great



crevasse filled with recent avalanche snow ; the second, 30 to 40 m. wide, hitherto nearly always considered impassable, filled just where needed by an enormous cone of snow accumulated by the wind and furnished with an ice *vire*, which enabled us to gain the upper lip without difficulty. A buttress of rock hides our N. face from the observer at Concordia.

Foot of face 5.30 a.m. ; at 6.0 start to climb the icefall by attacking it on the right by means of a chimney and of a *vire*, both ice ; first great crevasse, 6 m. wide, 7.30 ; zone of séracs, zigzag ; second great crevasse, 8.30 ; then bear to right to gain a rib, which at 10 joins the arête coming from Sattelhorn. Then the slope rounds off into a dome and eases off up to the foot of the little N. arête (visible from Concordia), which, not very steep, leads to the summit. En route we came across one vertical wall 7 m. high, very difficult. Snow was good except at such points as the sun never reaches. There the snow was powdery.

NOTE.—‘The view from Ebnefluh distorts the appearance of Aletschhorn. Our route in reality looks steeper and more direct. The distortion makes it turn too much to the right. The Ryan-Lochmatter line of *descent* is marked . . . and joins my own route, which was suggested to me by Dr. Oscar Hug.’

Canadian Alps.

MT. ALBERTA (11,874 ft.) AND MT. WOOLLEY (11,170 ft.). July 21, 1925.—Mr. Yuko Maki and five other Japanese climbers with the guides Heinrich Fuhrer and Hans Kohler of Meiringen, and a Swiss amateur, Herr Weber. Mr. Maki writes to Mr. Fynn :

‘VANCOUVER, B.C.,
‘August 26, 1925.

‘We thank you very much for your kindness in telling us about Mt. Alberta, and kind attention to us at Jasper.

‘We left Jasper on July 11 and got to Habel Creek¹ on the 17th, where we made our base camp. We searched from the S.W. and the S.E. and found that from the latter side it was possible to try. We carried up two flying tents just under the S.E. foot of Mt. Alberta about 6800 ft. high—there is quite a small plateau, but very nice for short camping. From that place on July 21 we climbed the mountain. The day was fine, but the atmosphere very smoky. It took 16 hours to climb. The final ridge is quite narrow, and the extreme N. end is the highest point. The ridge is snow-covered with cornices.

¹ [NOTE.—Habel Creek joins the Athabaska Valley from the E. and can be seen in the upper panorama, *A.J.* xxxv. opp. 184, on the extreme left below Mt. Alberta. Cf. also sheet 23 Interprov. Boundary Survey in same volume.]



MT. ALBERTA,
from the S.W.



MT. ALBERTA,
from the S.E.

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'I enclose here one photo which shows you the route which we took. The × indicates where we spent one night. Luckily no wind and very clear in the night, only -4°C . [25°F .]. Next day we came down the same way. It took 14 hours to the tents.

'I should like to say this climbing is first-class, but the grey rocks^a from about 10,000 ft. are quite loose. This is due to the declination of rock strata about 8° to E. It looks solid limestone, but often it comes off, and falling stones alarmed us very much.

'On the 28th we climbed up Mt. Woolley. It is quite enjoyable, and we had a glorious view of hundreds of peaks.

'On August 1 we started to try Mt. Stutfield from the glacier which comes down from the mountain to Habel Creek. It looks not too difficult, but the weather changed. After waiting two days we gave it up, as our time was coming to an end. We left Habel Creek on August 5 and came back to Jasper again on the 9th.

'We saw a very little part of the great Rocky Mountains, but even so I feel a very keen desire to have an opportunity to come back again here.

'Now, we thank you heartily for your friendliness and are very glad to have met you.'

Mr. V. A. Fynn writes to Captain Farrar: 'Upon my return from Alaska I found six Japanese climbers at Jasper who had come all the way from Japan to do some climbing in the Columbia district. The party was headed by Yuko Maki of Mittellegi fame. I did not catch his name when we were introduced and did not find out that he was the hero of that ascent until the last day of my stay in Jasper. I thought it was very sporting indeed of these Japanese to come all that way to climb in the Canadian Rockies, and did all I could to make things as easy and pleasant as possible. They engaged Heinrich Fuhrer, the brother of Ulrich of Finsteraarhorn fame, and Hans Kohler, the son of the well-known Niklaus Kohler of Meiringen. They wanted me to go along, but time would not permit.

'I strongly urged them to try Alberta, and suggested that they could probably reach it from a little side valley on the N. slope of Wilcox Pass in case the fire had not yet subsided when they were ready to try or had so damaged the W. branch of the Athabaska as to destroy all horse-feed for this year.'

It will be seen from Mr. Howard Palmer's paper, p. 306 *seq.* in this number, that Dr. J. W. A. Hickson, President of the C.A.C., and he, with Conrad Kain, on August 24, 1924, camped in Habel Creek, the trail up which they had caused to be opened by their

^a The grey rocks of which Mr. Maki speaks are the same treacherous stuff which we usually refer to as black rock. Actually it is dark grey.—V. A. F.

packers. Their object was to make the first ascent of Mt. Alberta. Unfortunately, as he describes, they were dogged by atrocious weather and so were deprived of the possibility of success.

HUNGABEE (11,447 ft.), BY THE N. RIDGE. July 17, 1925. Mr. V. A. Fynn with Rudolph Aemmer.

Mr. Fynn writes :

On July 17 I carried out, with Rudolph Aemmer, a project which I had had in mind for several years—namely, the ascent of Hungabee by the N. ridge, which connects it to Ringrose.

I believe that the first ascent,¹ made by Mr. H. C. Parker under the guidance of the Kaufmanns, started from Opabin Pass, and followed the ridge which rises from the Pass in the direction of the summit, until the yellow rock was reached. The worst obstacle which this yellow rock presents is a practically perpendicular wall which runs N. and S. at right angles to the W. arête. In order to overcome this obstacle the Kaufmanns traversed S., and went up the second chimney they came to. This chimney is narrow, steep, and exposed to stones.

I do not know which way they turned after overcoming this first wall. It is probable that they turned N. and gradually regained the prolongation of the arête which rises from Opabin Pass. I think they used the last part of this rib, and finally landed on the N. or main ridge of the mountain, within half an hour of the summit.

When Oliver Wheeler and I made the second ascent of this peak in 1909 we followed practically the same route, except that we turned S. after overcoming the dangerous chimney, and utilized a series of ribs which brought us close below the main summit. At the point where the yellow rock gives way to the green-brown, one is met with a second very steep wall. We traversed N. for a short distance to a point where the wall was sufficiently broken to make it possible to climb it, and thus reached the treacherous black rock, of which the summit is composed. The summit itself was reached over the W. face of black rock.

These two routes are not safe because of the chimney in the first wall, and even in other places one is more or less exposed to falling rock.

In 1909 Rudolph Aemmer inaugurated a second route² by traversing N. under the first wall and past a subsidiary rib which runs parallel to the W. arête. From this point he gradually worked back to the W. arête, reaching it where it runs into the black rock strata. From this point his route is the same as that of the

¹ *A.J.* xxv. 88-9 for a précis of these routes by Mr. Fynn, and p. 81 for a marked picture.

² *Ibid.* 561.

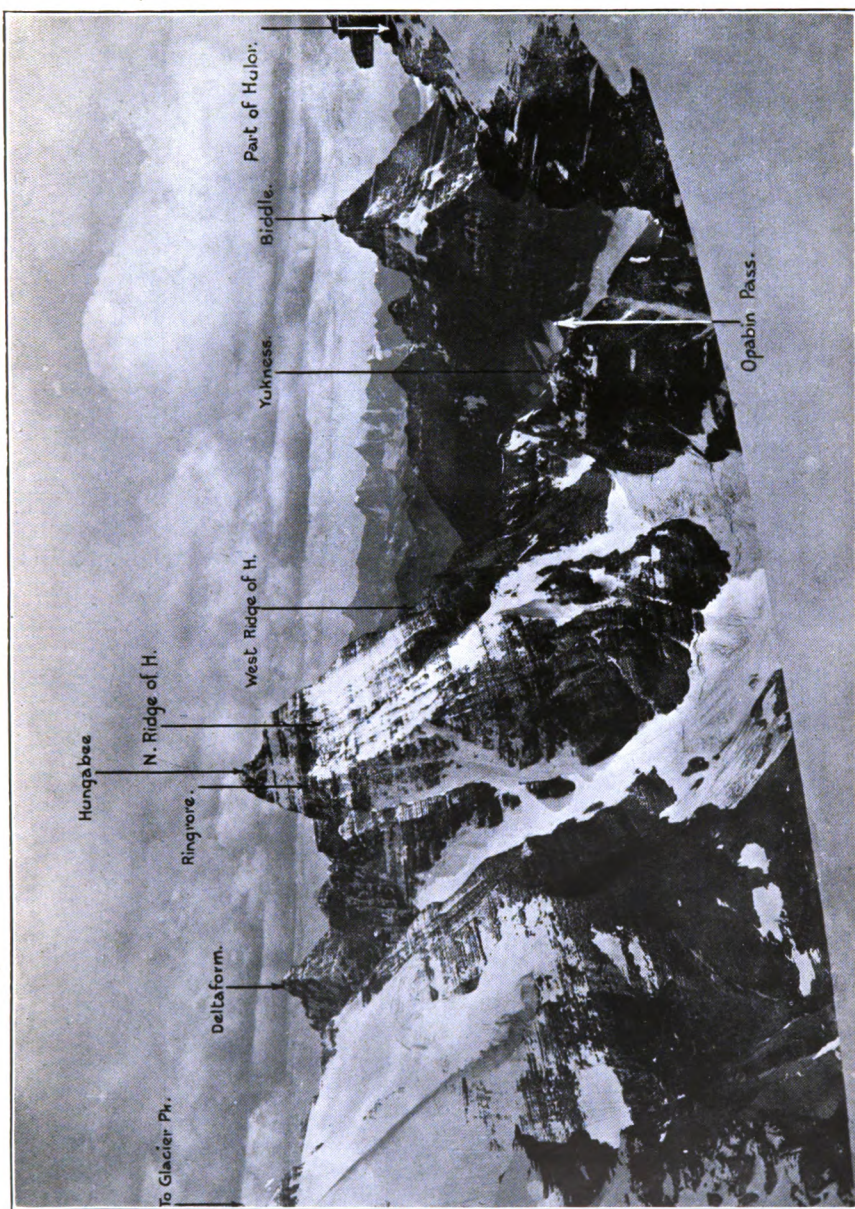


Photo: Byron Harmon.

HUNGABEE
from S.E. slope of Mt. Huber.

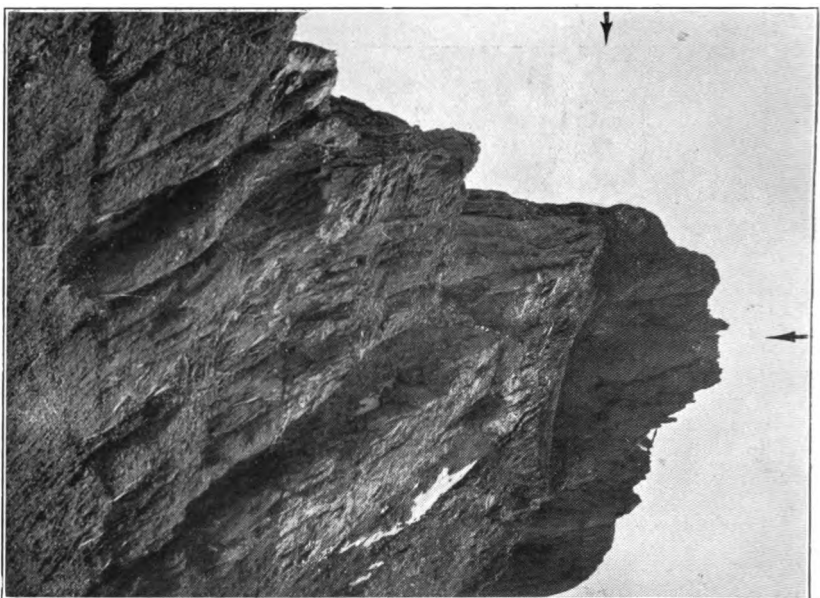


Photo: V. A. Fynn.

HUNGABEE (1).

Final bit of N. ridge.

See note.

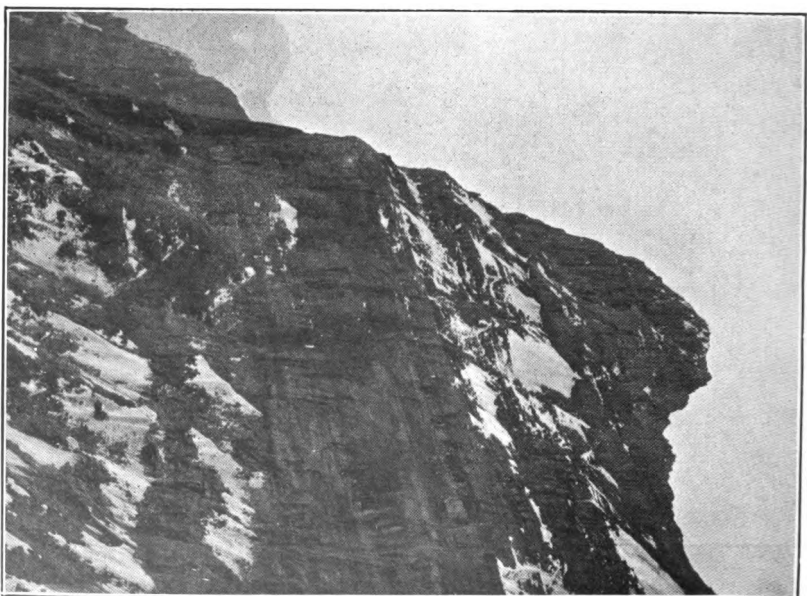


Photo: V. A. Fynn.

HUNGABEE (2).

E. or Paradise face of N. ridge.

See note.

Kaufmanns. The Aemmer route is much safer than that of the Kaufmanns, but is not absolutely safe, as the rocks on the N. slope of the W. rib are very rotten.

Our new route goes almost straight up the W. face of the N. or main ridge, striking this ridge at its lowest and most pronounced gap between Ringrose and Hungabee, and then follows the N. ridge to the summit. The rocks are attacked at a point which lies perpendicularly below the summit of Ringrose, and the line of ascent very gradually bears S. until the gap in question is reached. There are no difficulties at all up to the gap. The ridge itself is very rotten in places, but never so steep as to be really difficult. Part of it is about 8 ft. wide, and quite flat, so that Rudolph and myself were able to link arms and stroll up side by side. This flat portion of the ridge is followed by an interesting but easy scramble in somewhat steep rocks, which lead through the brown and green strata to the treacherous black rocks. In no part of the ascent is one exposed to stones.

We left the C.P.R. Camp at Lake O'Hara at 2.45 A.M., and reached the foot of the W. face of the N. ridge at 5.15. The night was very dark, and as there is no path up to this point, we lost considerable time, notwithstanding our lantern, mainly because one has to cross an extended patch of loose boulders. After breakfast we reached the pronounced gap in the main ridge at 8.10 and the summit at 11.20. Remaining until 11.50, we were back in camp at 4.45, *via* the Aemmer Route.

I believe that this is by far the best route up Hungabee, and it is very little more difficult than the two others.

Note re Illustrations.

1. Final part of N. ridge, common to Kaufmann and Aemmer routes. Fynn's first route finished up the W. face past the patch of snow to the N. ridge at level of arrow on left. Summit is just N. of highest gendarme and just below arrow on top margin.

2. East or Paradise face of N. ridge. Cairn on summit is well seen.

BASTION PEAK (9812 ft.). August 12, 1925. Dr. J. W. A. Hickson, Mr. Howard Palmer, and Hans Kohler of Meiringen. This peak is situated in the Rampart group of the Canadian Rockies on the continental divide, immediately S. of Moat Lake, about twenty-five miles from Jasper. To the W. stand Turret Peak, Mt. Geikie, and Mt. Barbican, in the order named, being part of the same range.¹ From a camp (6400 ft.) on the lake, the col (7950 ft.) at the base of the E. ridge was gained over the steep northerly slopes in two hours (5.10 to 7.20). The southern face was then traversed W. in a descending line, across loose rocks, to the S.S.W. arête,

¹ See Map, *A.J.* xxxvi. opp. 342 and illustration before 343.

which was followed upwards to a small shoulder (8.45.; 8750 ft.). Here rucksacks were left and rope-soled shoes donned. A favourable traverse led W. to a well-marked couloir, the bottom and sides of which were ascended (steep but solid rock being encountered) to the base of the summit cap. This was surmounted by three chimneys (not too easy) in the edges and faces of vertical slabs. The top was gained at 12.30. Success was problematical until the last moment, as the mountain was too steep to see the route in advance. Leaving the top at 1.25, the descent was made by the same route to the lower slopes, where a slightly shorter line was adopted. At several points on both the ascent and descent the second man had to assist the guide owing to the scarcity of holds. The pass was crossed at 6.20 and camp regained at 7.55, the descent consuming only forty minutes less than the ascent. The total climbing time was thirteen hours and forty minutes.

The mountain affords a good rock climb and deserves a high rating among mountains of its class. We did not see any other route and we doubt whether there is one.

HOWARD PALMER.

Drakensberg.

FIRST ascent of W. buttress of 'SADDLE' (circa 10,500 ft.) from Natal side. Mr. and Mrs. D. W. Bassett-Smith, and Dr. O. K. Williamson, July 20, 1924. From 'Rockeries' camp (about 5000 ft. high, arranged by Mr. Bassett-Smith for Annual meet of Natal Mountain Club) ascended the side valley which leads directly towards the Saddle in about 50 minutes, to a bivouac under a large overhanging rock. July 21: The N. face of the mountain below the final wall, which is vertical, or even slightly overhanging for about 1100 ft., exhibits a number of wide horizontal ledges or terraces running across the mountain, separated by intervening walls, for the most part smooth and unclimbable, but here and there broken by gullies. The solution of the problem of the ascent consisted in finding a practicable route to the uppermost of these terraces. Starting at 6.45 A.M., the party ascended a grassy ridge to the point at which it abuts upon the N. face. After some considerable time spent in searching for a route a buttress was turned by a ledge leading to the right to a grassy gully containing many fallen rocks which was ascended to one of the horizontal terraces. Walking along this to the right it was found that it was immediately below that terrace which Mr. Bassett-Smith had concluded was the key to the ascent. Another boulder-strewn gully was ascended, and after some searching, in the course of which some smooth and evil rocks were discarded, an easy traverse to the right round a corner brought them on to the desired shelf. The party followed the soul-satisfying ledge round several glens, with grand views of the sheer walls immediately above and below. Finally an easy grassy gully, 100-200 ft. in height, was ascended to the gap on the edge of the

Basutoland plateau which was on the main ridge separating our peak from the next peak to the N. Walking up the easy incline southwards, the party found itself separated from the summit of the main peak by a gap on the opposite side of which was a vertical rock wall 30-40 ft. in height. Having ascended this (from the technical point of view by far the most interesting portion of the ascent), they reached at 1.45 P.M. the summit, on which two large cairns were found, and where Mr. Bassett-Smith made some topographical observations. Leaving again at 2.30 P.M. the descent was effected by the same route, the main camp being reached again at 7.45 P.M. Total halts during ascent 20 minutes, during descent 25 minutes. The success of the expedition was entirely due to careful reconnoitering by Mr. Bassett-Smith, by means of which he was enabled to work out the very intricate route. He was surprised to find the cairns at the summit, and considered that these had probably been erected by border surveyors many years previously, and further that the final difficulty was probably due to the action of water, and that when the surveyor ascended this peak from the Basutoland side, the gap between the main berg and the final peak did not exist.

VARIOUS EXPEDITIONS.

Pennines.

DUFOURS PITZ (4638 m. = 15,217 ft.) BY E. OR MACUGNAGA FACE. June 21, 1925.—MM. P. v. Schuhmacher, W. Richardet, F. Thormann, W. H. Amstutz, all of the A.A.C. Berne :

'The conditions were splendid, the snow so good that we hardly had to cut a step. No sign of stone-fall. This appears to be the earliest ascent, previous ascents having been in July and, mainly, August, which seems an error as conditions can seldom be better than early summer. September can hardly ever be suitable, as ice would be certain to prevail. Times—depart Marinelli Hut, 2.50; top Imsengrücken, 5.15; rocks of Dufour, 8-8.35; Ostspitze, 10.35; Dufour, 10.50. Time, including halts (1½ hrs.), 8 hrs. The Marinelli couloir was crossed in 3 minutes!'

The following is an account in M. Richardet's own words taken from a letter to M. Paul Montandon and kindly translated by him. M. Richardet was killed six weeks later by a stone on the Aiguille Blanche.

BERNE, JUNE 28, 1925. Here some details of our ascent of Monte Rosa from Macugnaga (W. Richardet, P. von Schuhmacher, W. Amstutz, Fr. Thormann).

June 20. Per motor-car, Berne—Grimsel—Brigue—Simplon—

Macugnaga. Then walk to the Marinelli hut, 3100 m. in about 5 hours. Unfortunately there was no possibility, during the whole day, of ascertaining the conditions of the face or of the way there to be taken, as the whole massif was constantly enveloped by clouds and fog.

June 21. As we had slept very little during the past two nights, we got up only at 2 o'clock in the morning, after a very good repose on good mattresses. Thermometer showed 0° C. outside. Departure at 2.50 on two ropes. North side of Marinelli couloir 3.05–3.10. Traverse of couloir on splendid, hard snow, with Eckenstein crampons in 3 minutes (!). No ice at all, only two small furrows (caused by stones), about one metre deep. South side of couloir 3.13–3.18. Here we extinguished our lantern. Rest on a sheltered place in the upper third of Imsengrücken 4.15–4.35. Top of Rücken 5.15. (We might have put on the rope only here; I should do so in future.) The rocks of the ridge of the hut, as also those of Imsengrücken, are quite easy, resembling those of the Schafberg on Bietschhorn. The inclination of the Marinelli Couloir where we crossed it (about 3100 m.) is a moderate one, for instance less than the Agassiz couloir or the upper Schreckhorn couloir. From the top of the Imsengrücken (about 3540 m.) we climbed for about 100 m. direct along the south side of the Marinelli Couloir. Here the slope is much steeper. We then soon found a good entrance into the crevassed glacier to the left, on which we soon gained height. Rest at about 3800 m. 6–6.30. A long, horizontal crevasse necessitated a traverse till almost under Zumsteinspitze. The three Bergschründe were not particularly difficult. Crossed the higher one 7.30. The steep slope leading to the rocks of the Dufour was in first-rate condition, no ice. Rest on first rocks which were warm and dry 8–8.30. On the top of Grenzgipfel [Ostspitze] 10.35 and on Dufourspitze 10.50. Total time 8 hours, rests $1\frac{1}{2}$ hours, walking time $6\frac{1}{2}$ hours. I should compare the rocks leading up to Grenzgipfel to those of Anderson arête on Schreckhorn. We slept $2\frac{1}{2}$ hours on Dufourspitze and arrived at the Bétemps hut 13.45.

June 22. We returned to Macugnaga over Old Weisssthor. Weather bad, snowy and thick fog. So it was difficult to find the right passage. Time $6\frac{1}{2}$ hours.

June 23. Return with motor-car *via* Simplon to Brigue and Lausanne.

We were fortunate enough to find conditions, for our ascent, as perhaps no other party (except Schulz's) has experienced. We had to cut only twenty steps (just after leaving Imsengrücken). Only twice did we hear any stones fall the whole day, and that was at a considerable distance. The snow could not have been better, the glacier all right, the rocks dry and warm, weather cold and windless. We were in first-rate training, felt however the want of sleep of two nights: total sleep only 5 hours. And motoring so long was fatiguing. With all that I should not like to qualify this ascent as easy or free of

danger. But I may say that the difficulties, as well as the dangers of the route, are less in the early part of the summer (June or July) than for instance in September, which month has sometimes been recommended. The later you undertake the tour, the looser get the rocks on the Nordend, the more torn gets the glacier, the more ice there is on the last steep slope and in the Marinelli couloir, and so much deeper and more difficult are the furrows in the latter.

Bernese Oberland.

JUNGFRAUJOCH (3470 m. = 11,385 ft.).—June 3, 1925. Mr. E. G. Oliver, with Adolf and Alfred Aufdenblatten. The party left the Guggi hut at 4 A.M. and descended the couloir, which was much encumbered with snow, to the Guggi glacier (5.30). Thence to the foot of the middle ice-fall (6.00) which presented no particular difficulties, arriving on the nearly level plateau between the middle and upper ice-falls at 7.15.

From here there are two alternative routes, that to the left being less steep but more broken by crevasses, that to the right considerably steeper though more even.

From the hut and from where we stood the left-hand route looked practicable, but it was impossible to see right up to the top. After discussion we therefore selected the right-hand route, and after a halt of about half an hour started up it (7.45).

At first all went well and we were able to kick steps in fairly good snow. About half-way up the slope, however, we found hard ice (8.10), and had more than two and a half hours of continuous step-cutting in hard ice before arriving on the more gentle final slopes (10.50). The last piece, which involved working round an overhanging bulge of ice just at the top of the ice-wall, was quite sensational.

Arrived on summit ridge to the right (West) of Pic Mathilde which we traversed to the Jungfrauoch (12.0).

Time 8 hours from Guggi hut, including halts; we had expected to do it in about 5 hours.

When we arrived above the ice-wall it became apparent that the left-hand route, which I understand is more generally followed, would not have been possible.

WINTER EXPEDITIONS.

GROSS SIMELISTOCK (ENGELHÖRNER), 21 Dec. 1924.—MM. W. Richardet and P. v. Schuhmacher, both of A.A.C. Berne. 'In the Ochsenthall eight to twelve inches powdery snow. Below the Simelisattel the rocks were covered with the same. Crampons useful.

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2 C

The "Egg" rocks were so dry that we used Kletterschuhe but no gloves! Just below the summit a little snow. The ridge to Kl. Simelistock was completely snowed up and in places actually corniced. Descended by the Macdonald chimney with four *abseils*. Times—ascend from hut, 2.55; descent 2.50.'

JUNGFRAU FROM ROTTAL. Dec. 22-23, 1924.—Mr. P. v. Schuhmacher with G. von Allmen of Mürren. Reached hut in 5½ hours. Eight to 12 inches powdery snow.

'Left hut 5 A.M. Followed the ridge—good snow. At first no difficulties—then a long, fairly easy traverse in the slabby snow-covered rocks of the N. flank. From where the ridge was regained, and to the summit splendid conditions exactly like summer. Reached Hochfirn 11.40-12.10. Summit, 2.15 Summer-ski used on Hochfirn! Descent to Jungfraujoch about four hours.'

DENT BLANCHE. December 30, 1924.—MM. E. Liechti and P. v. Schuhmacher, both A.A.C. Berne.

'Left Schönbühl, 5.10 A.M. Reached foot of Wandfluh (ca. 3550 m.), 7.20. In order to avoid the deep snow we followed chiefly the little rib in the face. S. arête Pt. 3912, 11 A.M. The first great gendarme was turned by the W. flank, much snow and ice enabling us to cut steps. Followed arête to top, 2-2.10. Hut, 8.45. Next day we reconnoitred the Zmuttgrat and went about four hours till below the snow ridge (ca. 3500 m.) and saw that the whole ridge was in splendid order, but the weather was too stormy to risk the ascent.'

ZINAL ROTHORN. January 3, 1925.—MM. E. Liechti and P. v. Schuhmacher, both of A.A.C. Berne. Left Zermatt, 2 A.M. Sheltered under a rock above Trift hotel 5 to 8, on account of slight snowstorm. Through deep powdery snow we reached on snowshoes the S.E. arête (ca. 3900 m.) at 2.15. Gabel, 4.30. Summit, 5.05. The rocks were throughout iced or snowed up. Left 5.07. S.E. arête, 8.10. Zermatt, 11.20.

BIETSCHHORN. The times of Mr. Lauper's ascent on January 26, 1918, were: Kippel to hut, 7 hours; hut to summit, 13 hours; summit to hut, 8½ hours; and of MM. P. v. Schuhmacher and W. H. Amstutz on Nov. 29-30, 1924: Hut to N. summit, 9½ hours; foot of W. arête, 4½ hours; bivouac in Bietschthal, 2½ hours.

[Communicated and translated.]

ALPINE NOTES.

| THE ALPINE CLUB OBITUARY : | Date of Election. |
|----------------------------|-------------------|
| Brown, F. A. Y. | 1866 |
| FitzGerald, G. | 1876 |
| Godley, A. D. | 1890 |
| Benson, A. C. | 1895 |
| Maclay, J. | 1896 |
| Schrader, F. (Hon. Member) | 1902 |
| Davies, W. M. | 1907 |
| Brockman, R. T. | 1918 |
| Vallot, J. (Hon. Member) | 1924 |

‘BALL’S ALPINE GUIDE,’ THE WESTERN ALPS.—The edition (1898) by Mr. Coolidge covers the Maritimes, Graians, Dauphiné, Mt. Blanc group, and Pennines to the Simplon. With maps of each district, 1 : 250,000, and a general map. Price 10s., or 10s. 4d. post free. Obtainable from any bookseller or the Assistant Secretary.

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The volumes of the ‘Central Alps’ are, for the mountaineer, the best general guides to the districts described and contain the well-known Ravenstein maps.

1 GUIDES DES ALPES VALAISANNES.—

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Vol. II. Col de Collon to Col Théodule, by Dr. Dübi, 9s.

Vol. III. Col Théodule to Weisstor, by Dr. Dübi, 8s.

Vol. IV. Col Simplon to Furka, by M. Kurz, 8s.

At Stanford's, Long Acre, W.C. 2.

LES AIGUILLES DE CHAMONIX (GUIDE VALLOT).—Par J. de Lépiney, E. de Gigord and Dr. A. Migot, with 39 route-marked illustrations and 2 outline maps. Paris: Fischbacher, 33 rue de Seine. 1925. 20 fr., or from the Assistant Secretary, 23 Savile Row, 6s. post free.

This admirable Climbers' Guide is a complete monograph of the Aiguilles and may be said to be a much enlarged and more elaborate 'Kurz' or 'Mont Blanc Führer.' See Review in last number.

A CLIMBER'S GUIDE TO THE ROCKY MOUNTAINS OF CANADA.—By Howard Palmer and J. Monroe Thorington, published for the American A.C. by the Knickerbocker Press, N.Y., 1921. This very useful summary, with several maps, of what has been done in the Rockies to 1921, can be obtained from the Assistant Secretary, 23 Savile Row, price 7s. 6d.

THE 'CLUBFÜHRER DURCH DIE BÜNDNERALPEN.'—Vol. IV., covering the Bregaglia and the Disgrazia group, by H. Rütter, with the assistance of Christian Klucker, can be obtained from Sauerländer and Co., Aarau, Switzerland.

LES ALPES DE SAVOIE.—Vol. VI., Part I., by Commandant Emile Gaillard, M.C. (Dardel, Chambéry, 27 fr. 50 post free), covering the groups Trélatête, Bionnassay-Goùter, M. Blanc, Brouillard-Peuteret, and Maudit-Tour Ronde, with skeleton maps of each group and several marked sketches, has just appeared. It follows generally the plan of the Kurz guide, and includes the full information of all recent climbs. See Review.

Part II., covering the groups of the Chamonix Aiguilles and the groups of the Grandes Jorasses and the Talèfre will appear early next year and can be subscribed for at 22 fr. 50 post free from the Assistant Secretary.

The full series is as follows :

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 Vol. V. Les Massifs entre le Lac d'Annécý et le Léman (to appear in 1926).
 Vol. VI. Le Massif du M. Blanc.
 Parts I. & II. as above.

The volume of Commandant Gaillard's 'Les Alpes du Dauphiné,' Part II., covering the Massifs of the Meije and Ecrins, is announced for 1926 and can be subscribed for later.

These guides have full sets of skeleton maps and many route-marked sketches, so that the French Alps are now very well off for guidebooks.

Commandant Gaillard will issue early in 1926 a new coloured map of the M. Blanc group, scale 1:50,000, with all the most recent nomenclature.

THE JOURNAL OF DE SAUSSURE covering his sojourn at Chamonix in July and August 1787, with an introduction and many notes on little known details by Commandant Gaillard and Mr. Henry F. Montagnier, and heliogravures, will be published at Christmas, with the authorisation of the family. It shows his preoccupations and hopes and finally his unmixed joy at the success.

Subscriptions can be sent direct to Commandant Gaillard, M.C., St. Alban-Lesysse, Savoie, France. Edition de Luxe, 4to, 105 fr., ordinary 4to, 45 fr., post free.

LA SOCIÉTÉ DE GÉOGRAPHIE DE FRANCE has conferred on Commandant Gaillard, in recognition of his work on his series of Guides, *Le Prix William Huber* with a silver medal.

The distinction is well earned. His work has been done in a conscientious and able manner, comparable in every way with the Conway-Coolidge Climbers' Guides and other similar works, and those who have any experience of such work know full well the meticulous care and very considerable research such work demands.

THE marriage of LT.-COL. E. F. NORTON, D.S.O., R.A., to Miss Joyce Pasteur, daughter of Lt.-Col. W. Pasteur, C.B., F.R.C.P., which takes place on December 18, is of peculiar interest to the Alpine Club, inasmuch as Col. Norton is a nephew of Dr. W. A. Wills, Hon. Sec. 1897-1900, and a grandson of Sir Alfred Wills, President of the Club 1864-5, while Col. Pasteur was elected to the Club in 1879, and his father, Mr. Henry Pasteur, was Vice-President 1893-5.

MR. COOLIDGE attained his seventy-fifth birthday on August 28, and was the recipient of many good wishes. The Bernese Historical Association, of which he is an hon. member, the Central Committee and the Section Berne of the S.A.C., were foremost in their congratulations and sent flowers as well.

His general health, unfortunately, causes his many friends and disciples anxiety.

AN ATTEMPT ON THE MATTERHORN IN 1865.—In 'A.J.' xxxii. 97-98 there is a reference by Dr. Güssfeldt to this attempt. M. Paul Montandon is good enough to send us the translation of a note from 'Die Alpenrosen' for 1876, published in Berne, reading:

In a recent lecture held at the Berlin Section of the Deutschen Alpenvereins, Dr. P. Güssfeldt reported as follows:

. . . Two months after the first ascent of the Matterhorn (July 14, 1865) I came to Zermatt with the firm purpose of ascending the peak. I addressed myself to the guide Taugwalder; but he was still too much shaken by the mishap at which he had escaped death only by mere chance, and it required long negotiations and ample promises to induce him and his son to try once more this dreaded enterprise. The party resolved to attack the peak from its Italian side and crossed, for this purpose, the Matterjoch. At Breuil they engaged an Italian porter and went on. From the beginning the greatest difficulties were met with, and after 4 hours' climbing the porter declared that he would not go one step farther. The party had no other choice than to leave him behind sitting on a small rock, after handing him some bread and wine. Then climbing began again. The difficulties—steep snowfields, ice-coated rocks, crumbling stones—increased with every step, and finally, being only about 1500 ft. under the summit, they stood at the foot of a quite perpendicular rock-wall. There was no question but that their expedition must here come to an end. . . .

On their way down they picked up the porter, lost their way on the glacier, and, at last, reached Breuil during the night. The advanced season and the absolute refusal of the guides rendered another trial impossible. Only in the year 1868 could Dr. Güssfeldt try once more. On an afternoon of August he reached the hut on the Zermatt side with the guides Knubel and Lochmatter, and on the following day (August 9) at 10 o'clock the summit. The same day saw them back at Zermatt.

Dr. Güssfeldt was undoubtedly one of the boldest and most determined climbers of his time. It is certainly remarkable to find the two Taugwalders prefer to attempt the Italian side about which they knew nothing.

ELBRUZ.—The generally well-informed *Journal de Genève* publishes the following perfectly incorrect telegram :

‘ *L’Elbrouz vaincu.*

‘ Moscou 23 août 1925.

‘ Un groupe de dix-neuf alpinistes a pu accomplir la difficile ascension de l’Elbrouz, le pic le plus élevé de la chaîne du Caucase. La cime a été atteinte après onze jours de marches épuisantes à cause des violentes tempêtes de neige, dont une a duré six jours.

‘ L’ascension de l’Elbrouz était tentée depuis un siècle, mais jusqu’à présent personne n’avait dépassé 5000 m. C’est à dire qu’on n’avait pas même atteint la crête de la haute chaîne de 5200 m. en moyenne qui relie comme un mur de glace les cimes principales dont la plus haute est de 5642 m.’

It is well known that the ascent of the E. peak (18,347 ft.) was made in 1868 by Messrs. Freshfield, Moore, and Tucker, and that of the W. peak (18,470 ft.) in 1874 by Messrs. Grove, Gardiner, and Walker as recorded at the time in the JOURNAL.

They are fully described in Mr. Freshfield’s ‘Caucasus and Bashan,’ 1869, and Mr. Grove’s ‘Frosty Caucasus,’ 1875. They have been more recently recorded in Mr. Woolley’s ‘List of Caucasian Ascents’ (‘A.J.’ xxvi. 96). Subsequent ascents have been fairly frequent. Neither summit presents any difficulty to active mountaineers, nor was the gap between them formerly defended by an ice-wall such as the Russian party describe.

The Hon. Membership of the Alpine Club has been offered to :

S.A.R. IL PRINCIPE LUIGI AMEDEO DI SAVOIA, DUCA DEGLI ABRUZZI, in high appreciation of his great expeditions to Ruwenzori, the Karakoram Himalayas, Alaska and other parts of the world (Ordinary Member, 1894–1925).

H.E. The Swiss Minister to Great Britain, MONSIEUR C. R. PARAVICINI.

SIGNOR CAV. VITTORIO SELLA, in high appreciation of his great work in connection with the expeditions of H.R.H. the Duke of Abruzzi and of Mr. Freshfield, and of his services to mountaineering (Ordinary Member, 1888–1925).

At the Assembly of the Delegates of the Club Alpin Suisse, held at Interlaken in September, the distinction of Hon. Membership of the C.A.S. was conferred on MR. FRESHFIELD and CAPTAIN FARRAR. The latter had been an ordinary member for thirty-one years.

GENERAL BRUCE, MR. YELD, and MR. G. WINTHROP YOUNG have had the distinction conferred on them of Membres d’Honneur of the C.A.F.

We much regret to learn that the only son of ADOLPHE REY, the leading guide of Courmayeur, was killed whilst scrambling near Bardonnèche, where he was doing his military service. He was buried next his grandfather, Emile Rey, in the churchyard at Courmayeur. Adolphe will need no assurance of the warm sympathy of the many English friends of himself and his family.

We much regret to learn that the only son of GOTTFRIED BOHREN, guide-chef of Grindelwald, was killed in a motor accident. He had driven a party over to Visp. He left there alone late, crossed the Grimsel, and passed Meyringen next morning at 5 A.M. The car was found, upside down with him pinned underneath, in the water of the Lake of Brienz at a point soon after the road attains the N. shore. It is presumed that over-fatigue caused momentary slumber as motor-drivers know does happen. The young man was previously a guide, and with his father had made various great expeditions, generally with Mr. Allston Burr.

I AM grieved to learn that FRITZ BOSS, the very fine young porter who was my companion on the Ebnefluh in 1924 ('A.J.' xxxvi. 402), died of pneumonia in June. He had been busy getting in his hay in wet weather and got repeatedly wet. I saw him at work in difficult circumstances that would have tried the *moral* of an ordinary man, whereas he never turned a hair and came down last over an ice-cliff ending in a big jump of quite 20 ft., all the while in a tempest of hail. One cannot spare men cast in such a mould. J. P. F.

THE death at eighty-two is announced of STEPHEN KIRCHLER of Sand in Taufers, in his day the greatest of the Zillerthal guides. His descent of the Stillupp face of the Löffler with Dr. Diener was one of his noteworthy exploits, and many of the new ascents in his group were led by him. He was later gardien at the Chemnitzer hut.

THE death at seventy-seven is announced of the guide DANIEL INNTHALER of Nasswald on the Raxalpe, well known as a brilliant rock-climber. His most famous ascent was the N. face of Planspitze in the Gesäuse. He was the teacher of Konrad Kain, now resident in British Columbia, who comes also from Nasswald.

M. PAUL MONTANDON speaks very highly of the Hotel Belalp, kept by the brother and two sisters Klingele. 'It has kept all the charm of old times . . . there were a good many Englishmen and English ladies there and the hotel had a good season.'

SEPP INNERKOFER OF SEXTEN.—The death of this famous Dolomite guide, of whom a portrait appears in 'A.J.' xxxv. opp. 262, was announced in 'A.J.' xxxi. 127. Details are now given by Oberstleutnant F. Kupetz who commanded the battery which

put up the barrage to cover the attack in which Sepp was killed. Some details of Sepp's activities are to be found in the Obituary Notice of Sir Edward Davidson. In his Dolomites he had only one possible rival, Toni Dimai. None of us who have climbed with him will forget his grace of movement on difficult rocks or his frank and honest ways.

Sepp was 50 when the war with Italy broke out, but joined up with his sons Gottfried (aged 22) and Sepp (aged 18), and was stationed on the Sexten Plateau front where, of course, he knew every stone. Many tales are told of his gallant behaviour. In the early days the Paternkofel, next to the Drei Zinnen, had been used as an observation post by the Austrians, but early in June 1915 an Italian patrol occupied, and built an entrenchment of stones on, the summit. The post was too valuable to surrender, and Sepp who, by this time, had been advanced to *Ober-Jäger*, volunteered to dislodge the Italian garrison whom he put at six or eight men. He proposed to ascend by the N.N.W. arête (of which he had made the first ascent in 1896) with five other guides and his son Gottfried. The climb ends in a nearly vertical chimney finishing a few feet below the summit, so it was hoped to surprise the Italian post. The attack was arranged for the night of July 3-4, but in view of the risk young Gottfried was forbidden to go. The attack was to be covered by a barrage from a battery on the Dreizinnen plateau and Sepp carried a flag to signal the battery when to lift. The party duly left at 2 A.M., and everything went according to plan. At 9 A.M. Sepp, followed by another guide, appeared just under the summit plateau. The barrage promptly stopped. Sepp, followed by the other men, was seen to dash forward and to throw three or four hand grenades. He was met by ten or twelve Italians from behind their stone wall. Suddenly the attackers threw themselves to the ground while the defenders retired behind their wall. It appeared that an Austrian machine gun on the Innicher Riedl had opened fire. Immediately it stopped three or four Italians dashed out once more, including a gigantic Alpino. Sepp sprang to his feet but was instantly shot by the latter, threw up his hands, and fell backwards over the edge, his body lodging in the Opelkamin some 25 ft. down. The other guides instantly retired, descending the rocks at their utmost speed, all but one escaping unhurt although pelted with rocks by the Italians who had put up so staunch a defence.

Sepp's body was recovered by the Italians and buried, it is stated with military honours, on the summit, the offer of his companions to rescue it in the night being deemed too risky.

The other guides reported that Sepp threw four bombs of which only the third exploded, and that he was shot dead through the head.

On August 17, 1918, when the summit was reoccupied the two sons and a patrol in command of an officer made the ascent and found the grave marked with a cross bearing Sepp's name. The

body had been buried wrapped in an Italian patrol tent, and was quite recognisable. He was reinterred in the family grave at SEXTEN. His youngest son manages the family Gasthof on the Fischleinboden, and is one of the most sought after guides of the district.—From *Mitteilungen D. und Ö. A. V.*, July 15, 1925.

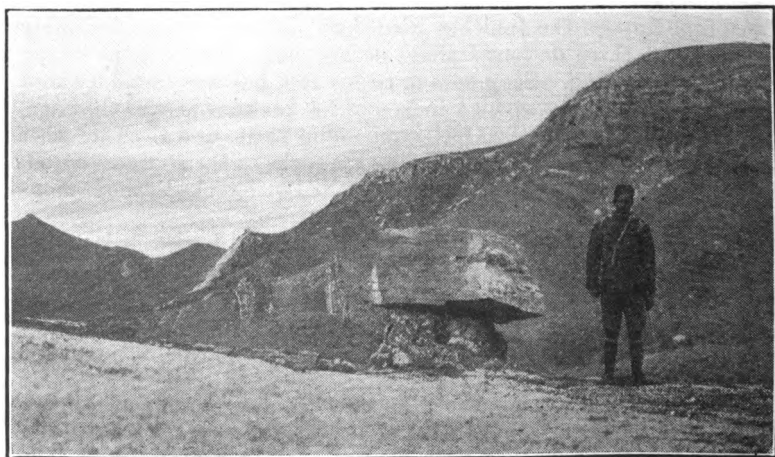
THE LATE MAJOR LINDSELL.—Mr. Charles Morger, member of Committee S.A.C. section, St. Gall, writes :

‘It was on one of the rare fine days of 1922 that I met on the way to the Hüfi Hut Major Lindsell with two guides—one his favourite, Biner of Zermatt. I was amazed that the party made only one stop on their way. So we reached the hut in 2½ hours, which may be considered as the minimum.

‘At sunset I had the chance to enter into conversation with Major Lindsell. We stood before the hut, and he seemed to be thoroughly acquainted with all the surrounding peaks and their routes. He told me that in a few weeks he would complete his 65th year, and that before then he would finish his trips in the higher Alps by climbing the Tödi *via* the difficult west route. “I am not of your opinion,” I replied, “as I had the occasion to watch your going up to the hut, and venture to say that the Tödi will not be the keystone of your alpine career.” Major Lindsell smiled, saying “Well, you may be right.” . . .

‘Now, on reading the article of E.L.S. in the *ALPINE JOURNAL*, I am pleased to learn that I was right, and with deepest regret I take note that our Alps have lost one more of their excellent admirers.’

GYPSUM ‘GLACIER’ AND TABLE, SOUTHERN PERSIA.—This photograph may interest those familiar only with the similar



phenomenon on glaciers of ice ; it may, however, be quite unique. In this instance the glacier is of gypsum, squeezed out from the highly gypseous rocks of the region, and its surface dissolving under the action of the tropical rains ; a block of hard limestone, stranded on it, has protected the surface on which it rests, and in process of time become raised above the general level. The action is paralleled by that of the formation of 'earth pillars' to be seen in many regions in moraines and old boulder clays, though in the latter case it is one of mechanical corrosion of the small material not protected by the cap rock, and not of solution as in the phenomenon illustrated.

N. E. O.

GEOLOGICAL NOTE ON N.-E. RIDGE OF AIGUILLE VERTE.—The steepness and slabby character of the ridge, particularly in its lower part, seems to be due to the gneiss of which it is composed having been subjected to an excessive amount of lateral pressure or squeezing, which has caused it to develop a very pronounced vertical jointing, and given the long stretches of unbroken slab.

N. E. O.

N. ARÊTE OF NORDEND.—This was first *descended* by the late Walter Flender with Heinrich Burgener and Ferdinand Furrer in 1899, then by Herren E. Christa, Pfann, and Dr. F. Pflaum in 1901, and by Dr. G. Leuchs and A. Schulze in 1902. The descent was repeated by Herren A. Matschunas and W. Welzenbach, two of the young and capable Munich Akademikers, on August 15, 1925.¹ After *climbing down* the four great pitches they *reclimbed* each without artificial aid and accordingly claim to have made the *first ascent*. While no doubt the performance shows them to be very competent climbers, the *first ascent* of the arête was made some years ago by Capt. Ryan with the guides Josef and Franz Lochmatter, as mentioned in Dr. Dübi's *Alpes Valaisannes*, vol. iii. 117. Franz Lochmatter told me that gaining the arête to start with was the main difficulty, as the slabs were very smooth and overhung.

Further particulars will be obtained on Franz's return from the Karakoram.

J. P. F.

Mt. BLANC by the AIG.-BLANCHE and the PEUTERET ARÊTE.—This great expedition was repeated during the season by two Munich Akademikers Dr. W. Allwein and Herr W. Welzenbach. They bivouacked on the Brenva glacier ; again on the Col de Peuteret, and reached the Vallot hut late at night, where they were held up two days by bad weather.

A NEW stone hut is now completed on the rocks at the foot of the S.E. ridge of REQUIN and will serve for the Requin, Midi and Plan.

¹ See *Der Bergsteiger*, September 18, 1925. (An interesting, well-run weekly paper published in Vienna.)—J. P. F.

THE new Chalet-hotel on the COL D'ISERAN, over which a high-road is being built, was opened in August last. The celebration was attended by the President, Commandant Regaud and Baron Gabet, past President C.A.F., and by Signor Cav. Bobba of the C.A.I., and MM. de Cessole, Faist and Joublot of the C.A.F.

A NEW hut below the COL DU CARRO has also been opened by the Section Lyonnaise C.A.F., which includes many brilliant mountaineers.

A NEW Aletsch Hut has been opened at an altitude of 2745 m. on the Thorberg.

THE KAISERGEIRGE, a limestone range in N. Tirol, has long been known as the theatre of very desperate climbs, and there are probably more men killed there each summer than in all other *climbing* expeditions in the Eastern Alps put together, excluding the Raxalpe. The super-climbs were hitherto the W. face of the TOTENKIRCHL and the E. face of the FLEISCHBANK, described in this Journal. On July 28, however, Herr Roland Rossi of Innsbruck and a Munich friend succeeded in climbing the yet more desperate S.E. face of the latter. Their previous attempts were frustrated by weather, and meantime a member of a Munich party led by the well-known Toni Leiss, which also attempted it, met with a fatal accident.

Herr Leiss himself, one of the best of the Akad. Alpenverein Munich, has now been killed on the Gehrenspitze in the Tannheimergebirge, W. of the Lech valley, on the Austro-Bavarian border. Details fail so far. There is little question but that these young Munich climbers are forcing the pace. There is a dangerous spirit of emulation which tends to carry them over the limits of reasonable risk. Some of the best of them have already paid the penalty. The tendency to treat them as heroes is thoroughly vicious. No doubt the forcing of a route up some desperate and doubtful face puts to the test the leader's nerve, sangfroid, strength, endurance and skill, but there is a limit, and a fatal accident only reveals the fact that the man tried himself too high. Of their courage there is no question, and it is doubly regrettable to see such young lives thrown away, on the threshold of their usefulness in life, on an object which, however, suited to training one's faculties, is, after all, not worth the ultimate sacrifice.

THE NEW FRENCH GOVERNMENT MAP 1 : 50,000.—The following sheets have been published : Tignes, Petit St. Bernard (Ruitor), Lanslebourg (Charbonel, Bessanese and Ciamarella). Obtainable from Barrère, rue du Bac, Paris.

MONTE VISO.—This magnificent viewpoint is now within easy reach of Turin. A train leaves Turin at 5.45 A.M. for Bargé and an auto connects with Crissolo, arriving about 10 A.M. The route up

to the Lago Grande di Viso is in Dr. Coolidge's Ball, p. 62: 'Follow the telephone poles.' There is now a small inn, Albergo Quintino Sella, on the Balze di Cesare, as well as the Quintino Sella Club hut (Ball, p. 61) $1\frac{1}{2}$ hours further on, which has blankets and straw, but no wood. There is generally a guide at the Inn. The Viso can be climbed next day and the VISOLOTTO the day after. It is better if climbing the Visolotto to leave rucksacks about $1\frac{1}{2}$ hours from the Inn and to descend to the mule path to Piano del Re. An auto leaves Crissolo early and Turin is reached about 10 A.M.

H. E. N.

TURLO PASS.—Italian soldiers are improving the path on both sides. The descent in the Val Quarazza is on the right (E.) side of the valley. Ball, p. 530, and *Les Alpes Valaisannes*, iii. 149, describe the pathless route to the left.

POLLUX.—The S. ridge can be climbed without any difficulty. Just before the two gendarmes visible from both sides, turn over to the W. and climb a moderately difficult chimney with two chock stones. Then up a steep rock wall with good holds to the easy snow ridge which leads to the top. This is not described in the *Walliser Alpen*, though it is well scratched. It makes a welcome variation in the continuous snow work of the traverse of Pollux and Castor from the Théodule to the Sella Hut. The chimney was clear enough of ice on the third day after a spell of bad weather.

H. E. N.

MONT POURRI.—There are now three small hotels at Nancroit, one mile above Peisey (P.L.M. auto from Landry). The C.A.F. are erecting a hut next year about three hours on. It is marked in the *new edition* of Gaillard's *Alpes de Savoie*, vol. i., Part I., p. 136.

ASCENT OF ÖRAEFA JÖKULL—ICELAND (about 7000 ft.). The first ascent was made by Mr. F. W. W. Howell, drowned later in crossing a river in Iceland, on August 17, 1891 (cf. *Geographical Journal*, 1892, 841–50). One of his guides, Jón Plásson, is still living at Svinafell. It has now been ascended about eight times. An ascent was made on August 16, 1925, by Mr. Ruthven Whitewright Stuart with two guides. They started from the Sandfell Parsonage at 11.35 A.M., and reached the top at 7.57 P.M. The glacier was much crevassed and the steep ice of the final peak required step-cutting. The approach to the group is troublesome as the rivers are very full in summer, and a passage for the ponies has to be made on the ice.

Fog is also very prevalent. Mr. Stuart writes that one risks drowning before reaching the base of the mountain, and that the ice-fall of the Svinafell Jökull is the finest he has ever seen in the Alps or the Canadian Rockies. 'The two glaciers, one on each side of the broad rocky ridge by which one approaches the peak, are

very fine. . . . The eastern ridge leading up to the peak is very fine to look at, but impracticable.'

Mr. Stuart also ascended Hekla.

A SCOUTS' ALPINE CLUB, Club Alpin des Eclaireurs, has been formed—subscription 10 Swiss francs.

THE Cairngorm Club formally opened on August 1 a mountain indicator on the summit of Ben Macdhu in memory of its first President, the late Alexander Copland, to whose patience and care in the preparation of the panoramic view from the summit due tribute was borne by Mr. William Garden, President of the Club, and member of the Alpine Club. The unveiling was made by Mrs. Garden in a witty little speech, and among the 140 persons present were members of the Alpine, Climbers', and Rucksack Clubs, together with Mr. J. A. Parker, C.E., who was responsible for the erection of the indicator, Major Sir J. D. Ramsay, Bt., son of the late Sir James Ramsay, Bt., of Bamff, and other members of the Ramsay family.

HIMALAYAN NOTES.

THE VISSER EXPEDITION BEYOND THE KARAKORUM—Mrs. Visser write as follows :

Shimshal,

July 9, 1925.

DEAR CAPTAIN FARRAR,

From this quaintest of places I am writing to tell you how we are getting on.

We started from Srinagar on April 25th and crossed the Tragbal and Burzil passes to Gilgit, where we stopped three days to make further arrangements—then on to Hunza (visit to the Mir), and thence to our base-camp at Pasu, where we arrived on May 29th.

From here my husband and the guides made a reconnoitring expedition up the Pasu glacier to judge of the condition of the snow and also for topographical work.

They found there was still too much snow to venture to any great altitude yet, so we therefore decided to first explore the Khunjerab and Ghujerab valleys.

The chief difficulty here is the water ! It is no easy matter to get into the Khunjerab. The gorge is so narrow and at every turn the cliffs rise perpendicular to such enormous heights, that one is continually forced to wade through the streams so as to be able to advance at all. Sometimes even this mode of progress is impossible, and the way is barred. The Khunjerab is a veritable 'mouse-trap.'

In the Khunjerab, Brig.-Gen. Cockerill had been thirty years ago, but from there we crossed a snow-pass into the Ghujerab, thus entering into the totally 'unsurveyed' regions, where there was no map any more to indicate the way.

We followed the Ghujerab up to its source—then went up the glacier and crossed a steep snow-pass, the very steep and difficult descent through couloir into 'Maidur' valley. Here there was a 'summer settlement.' Great excitement amongst the people, who had never seen Europeans.

From this spot we crossed another pass into the Zardigarbin valley and continuing downwards through this valley, arrived in Shimshal two days ago.

We certainly were very lucky, as we had splendid weather all the time.

The surveyor, Afraz Gul, whom the Survey of India kindly placed at our disposal, has done excellent work and the map is progressing in a most satisfactory way. Besides the topographical work my husband has already made a fine collection of photographs, and has busied himself with meteorological observations.

I have collected butterflies and botanical specimens and have had most interesting 'finds.'

It certainly is the most wonderful country we have ever seen. Such stupendous gorges and precipices surely exist nowhere else!

As, I suppose, you have already heard, Marcel Kurz did not join our party.

We now have with us: Baron van Harinxma thal Slooten, a Dutch friend, the two guides Franz Lochmatter and Johann Perren, and Afraz Gul 'Khan Sahib' the Indian surveyor.

All members of the expedition are in good health, and just now enjoying a few days rest here in Shimshal before beginning the second part of our work: the exploration of the Shimshal regions: the Malungatti glacier, N. of the Hispar.

In September we hope to go to the Batura, the great unexplored glacier that reaches the Hunza valley, three miles from Pasu.

My husband and I send you many greetings, and look forward to seeing you again in London, when we get back to 'civilisation,' to tell you 'all about it.'

Yours sincerely,

JENNY VISSER-HOOF.

The Times of September 23 gives later news, reading:

'ROTTERDAM, Sept. 21.

'A message from Gilgit yesterday states that the Dutch Alpinists, Mr. and Mrs. Visser, have returned safely to Hunza, after a march of 590 miles through the unexplored and very difficult mountain regions of the Karakoram Range to the north of Kashmir.

'Mr. Visser telegraphs that he has discovered the sources of the Khunjerab, Ghujerab, and Shimshal rivers. He has also explored immense unsurveyed glaciers, one of them 37 miles in length, and mapped 2316 square miles of unknown country. All members of the party are well and the expedition is now continuing its explorations to the east.

'This is Mr. Visser's second journey to the unexplored country north of Mount Godwin Austen (28,250 ft.). This time the expedition, which is mainly scientific, approached the Karakoram through the Pamirs. Mrs. Visser is making a botanical collection. They were obliged to abandon their first attempt, in 1922, owing to insurmountable difficulties after six months in the mountains.'

CANADIAN NOTES.

MT. RESPLENDENT by the N. arête—Reverting to the statement on pp. 53 and 60, Mr. W. A. D. Munday writes :

'In July 1920 my wife and myself climbed the mountain by this route after almost successfully penetrating the icefall of the glacier to the east of this arête—there is a notable dearth of names to distinguish physical features in parts of this district. The slope below the rocks was snow-covered ice from which the snow was avalanching seriously before we gained the rocks. Spring was very late that year ; we encountered snow patches on the trail below Berg Lake ; even Mt. Mumm possessed ice-slopes overlain by snow which the prevailing warm nights during our stay prevented hardening to a point of comfortable safety.'

The partial and complete ascents by this ridge will be therefore as follows :

July 1915.—A. J. Gilmour, W. E. D. Holway. Dr. Gilmour writes : 'Holway and myself went up the middle arête of Resplendent to the top of the rock pile on the snow arête that leads to the summit. Here, because of the clouds, we could not safely advance. We waited, but our hands and feet became cold and we followed our tracks down. We were naturally very much disappointed not to have pushed on, as the difficult part was behind us.'

July 1920.—Mr. and Mrs. W. A. D. Munday. First complete ascent.

July 1924.—J. M. Thorington and A. J. Ostheimer III, with C. Kain, A. Streich, and H. Kohler. The arête was followed closely throughout ; summit reached in wind and snow ; descent to western snow col and head of Robson glacier. About three hours were spent on the arête, it being necessary to cut a number of steps in the slope below the rocks ; summit reached in two hours more. Second complete ascent.

REVIEWS.

Storia della Spedizione Scientifica Italiana nel Himalaia Caracorum. By Filippo de Filippi.

THIS handsome volume records the story of Sir Filippo de Filippi's expedition to the Eastern Karakoram and Chinese Turkestan during the years 1913-14. The scientific results of the expedition are to be published in two series, one of which, edited by Professor Dainelli, will consist of ten volumes. The first of these, dealing with the Glaciology of the upper Indus valley and the Vale of Kashmere, has already appeared. (See *Geog. Jour.*, March 1924.)

Much detailed information regarding the western portion of the Karakoram range has been accumulated in recent years since Sir Francis Younghusband traversed the Mustagh Pass and explored the sources of the Oprang river. Thus, in addition to the work of the Indian Trigonometrical Survey, we have the results brought back by Sir Martin Conway, the Duke of the Abruzzi, and the Workmans; but we had still to rely for our knowledge of the eastern region chiefly on the pioneer work of the early explorers—Strachey, Johnson, Shaw, Forsyth, and Gordon. Dr. Longstaff, in his paper read before the Royal Geographical Society in 1910, remarks 'of the mountain regions of High Asia which are politically accessible to the ordinary traveller, there is none concerning which detailed information is more scanty than the eastern section of the great Karakoram range.'

In 1909, however, Dr. Longstaff himself visited the Saltoro Pass and discovered the mighty Teram Kangri peak and added much to our knowledge of the Siachen glacier system and the district to the south-east of the Baltoro, and now, as a result of Dr. Filippi's expedition, we are in possession of detailed information regarding the most easterly portion of the range containing the Remu glacier and the watershed to the west of the Karakoram Pass. The expedition was carefully organised and thoroughly up to date. Its splendid scientific equipment was largely due to the liberality of the Italian Government, while subscriptions were contributed by the King of Italy and various private persons, including Sir A. Fitzgerald and Major E. A. Fitzgerald; Mr. R. W. Spranger also contributed very generously to the expenses of the expedition. Help was also forthcoming from various academies and scientific societies, including the Royal Society and the Royal Geographical Society, while the Indian Government contributed a subsidy of 15,000Rs. The expedition comprised eleven Europeans, of whom seven left Italy in 1913 and four others joined them at Leh in the spring of 1914. These included, besides the author and Professor Dainelli, Professor A. Alessio, Professor Abetti, and Professor Marinelli;

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Dr. Alessandri, director of the Monte Rosa Observatory; Marquis Nello Venturi Ginori; Cesare Antilli, director of the military photographic stations. Colonel Wood and Mr. Spranger of the Indian Trigonometrical Survey and two Indian surveyors joined the expedition in 1914. The personnel also included the well-known guide Giuseppe Petigax, of Courmayeur.

The winter of 1913-14 was spent by the majority of the party at Skardu, the capital of Baltistan, while Dainelli and Petigax made an expedition to the Baltoro glacier and the Saltoro valley.

After nearly four months spent at Skardu the expedition moved on *via* Karghil to Leh. Travelling in the Indus valley in the winter months was found in many respects to offer special facilities, owing to the frozen condition of the river, and Dainelli took advantage of this fact to explore the valley up to Da and to carry on his anthropometric studies of the natives. From Leh he conducted a further expedition in the upper Indus to the Rupshu plateau and Lake Moriri, and thence over the Saka La to the Pangong lake, returning by the Tankse and the Chang La to Leh.

From Leh the expedition travelled north over the Kardong La, descending to the Shyok valley and thence over the Sassar La to the Depsang plateau, where they established their base camp. Here the party again divided, Dainelli and Marinelli going east by the upper Chipchak to the head waters of the Karakash and Taldat, while Wood and Spranger, with the topographer Shib Lal, explored and mapped the district between the Remu glacier and the Karakoram pass, determining the true position of the eastern watershed of the range.

The remaining members, with Filippi, started for the main work of the expedition, namely the exploration of the Remu glacier system. This occupied from July 1 till August 18.

The Remu glacier marks the eastern extremity of the great furrow which extends almost uninterruptedly south of the Karakoram chain and almost parallel to it, and is occupied by the Hisper, Biafo, Siachen, Tarim Sher, and Remu glacier systems. This depression appears to be continued eastward in the valley of the Chipchak and the western branch of the Karakash. There are, however, no glacier systems east of the Remu, and the junction between the glaciated region and the ice-free region is astonishingly abrupt. The Remu glacier had not previously been explored in detail although its position was indicated on the Indian map, apparently from data collected by Johnson in 1864-65.

The fundamental error in this map was placing the basin, in which the Yarkand rises, to the south of the watershed, and the representation of a great curved chain of mountains to the north of the Karakorams containing the source of the Shyok, while the Remu system was represented as lying south-west of this river. One of the chief geographical results of Dr. Filippi's expedition was the discovery of the true source of the Yarkand in the northern branch of

the Remu and that of the Shyok in the terminal front of the main Remu glacier. This the author considers as probably the only case of a glacier which gives rise to two important rivers flowing in opposite directions from one of the largest watersheds in the world, between India and Central Asia; the Ivory glacier in Spitsbergen, however, appears to resemble it, though on an infinitely smaller scale, and the Forno glacier in the Engadine must once have flowed over the Maloja pass as well as along the Upper Inn valley, thus supplying feeders to both the Danube and the Po.

The author gives two maps for comparison, which illustrate very clearly the important alteration in the representation of the topography of the district resulting from this expedition.

The upper Yarkand had previously been traced by Hayward in the winter of 1868 for some distance above Kufulang. Wood and Spranger have now mapped it to its source in the northern branch of the Remu glacier and have also explored the three important tributary valleys entering from the west. The highest of these leads apparently over a pass to the head waters of the Oprang valley, which flows round the western margin of the Aghil chain to join the Yarkand.

The two lower tributary valleys are much larger and appear to drain the eastern side of the Aghil range. The third or lowest was described by Hayward and Forsythe and was probably the old route by which merchants from Yarkand traversed the Karakoram chain to Nubra in Ladak and Chorbut in Baltistan. This supposition appears to be borne out by the fact that Spranger found a cache containing tea, copies of the Koran, and letters dated about ten years previously. The difficulties of the route are evidently great and the present conditions appear to be against its use. It seems probable that more than one route was in use in former times over the chain, but the change in the condition of the glaciers has now rendered them impracticable.

The Remu glacier system was found to consist of a central trunk glacier about twenty-four miles long and one and a half miles wide near its termination and two miles wide at its névé in the west. It describes a large curve having a general N.W. and S.E. direction. It receives two tributaries, one to the north and one to the south, both flowing in a general west to east direction. The northern branch has a length of eleven miles and a width of one and a quarter miles. The southern branch, which joins the main stream at its foot, has a length of twelve and a half miles and a width of one and a half miles, the united streams terminating at 16,336 ft. above sea level. The lower portion of the trunk glacier is covered with seracs cut up into towers and pinnacles.

The main source of the Shyok river rises near the confluence of the northern tributary with the trunk glacier and flows along the left margin of the glacier between the ice and the eastern margin of the valley. At the head of the main glacier a saddle at a height

of about 19,850 ft. leads west over to the Tarim Sher, a branch of the Siachen glacier. This is dominated to the north by the peak 22,480 ft. of Peterkin's map. Filippi and his party found the upper basin of the glacier, below the pass, furrowed with difficult cracks and crevasses, and the Workmans record the same phenomena on the west side in the upper Tarim Sher. The trunk glacier is separated from the northern and southern tributaries by ranges of high peaks over 20,000 ft., but the highest peaks from 22,000 to 24,300 ft. lie round the head of the southern tributary and form the range dividing the Remu from the Siachen. The tributary glaciers from these peaks are, however, relatively small, and the alimentation of this great glacier system appears to be due largely to the snow which falls on the individual glaciers. The absence of moraine material is a characteristic feature of the Remu glacier in marked contrast to the other large glaciers of the Karakorams.

On August 13 the three parties were reunited at the base camp on the Depsang; here they heard of the outbreak of the war, and several members of the expedition returned immediately *via* Leh to Bombay. On August 20 the remainder started over the Karakoram pass for Yarkand and Kashgar, by the Riasham Dara and Basar Dara, but were obliged eventually to return to the Caravan route by Khargalik.

The volume is profusely illustrated with numerous beautiful photographs in the text and special panoramas by Magg. Cesare Antilli, including seven magnificent panoramic photographs of the Remu glacier system, the Depsang plateau, and the upper Shyok valley. Three maps also accompany the volume, one a general map of the area showing the itinerary, one of the Depsang Plateau and the upper basins of the Yarkand and the Shyok on the scale of 1 = 250,000, and a detailed map of the Remu glacier and the district east of it as far as the Karakoram pass on a scale of 1 = 100,000. These maps and photographs together give a very clear idea of the topography and scenery of the district.

Sir Filippo de Filippi and his companions are to be congratulated on the thoroughness and foresight with which the work of the expedition has been carried out, a thoroughness which we have been accustomed to in recent Italian expeditions, and we shall look forward with interest to the publication of the remaining volumes recording the detailed scientific results of the expedition which are promised.

E. J. G.

Where Hannibal Passed. By Arthur Rivers Bonus. With twelve Illustrations and a Map. Methuen & Co. 1925.

THE careful examination of the various views held by historians and geographers as to Hannibal's famous Crossing of the Alps contained in W. T. Arnold's 'Second Punic War' (1886) seemed for a time likely to close the discussion, at least in this country. But since in 1911 Professor Spenser Wilkinson started it afresh this

ancient controversy has raged with renewed, if intermittent, vigour. My own contribution to it, 'Hannibal Once More,' in 1914, was succeeded in 1924 by a booklet from Mr. Cecil Torr,¹ and here comes another essay from a new author who has succeeded in hunting out a fresh candidate for the distinction of having furnished a Road to Rome to the Carthaginian host.

Up to the middle of the last century the Great Passes, the Mont Genève, the Mont Cenis, and the Little St. Bernard, were the favourites with students and alpine travellers. But there seemed no reason why the game should stop before every pass below the snow-level in the Western Alps had had its claim, or lack of claim, fully investigated. Since 1900, however, a school of French and English writers has arisen who have, as far as they themselves are concerned, narrowed the field of controversy by their insistence on the acceptance in its most literal sense of a speech which Hannibal is reported by Polybius and Livy to have addressed to his troops, pointing out to them the view of Italy from the pass itself. These critics have consequently put aside the famous highways over which their predecessors had wrangled, and confined themselves to discussing passes with a view. It would seem that there are only three passes that possess this qualification. These are Colonel Colin's, M. Ferrand's and Professor Wilkinson's Col du Clapier, Mr. Cecil Torr's Col de la Traversette, and the pass now brought forward by Mr. Bonus, the Col de Malaure, an obscure gap in the range north of Monte Viso, dividing Dauphiné from Piedmont, the valley of the Guil from Val Pellice.

In the volume before us Mr. Bonus describes how, having made up his mind as to the district in which to look, he set out from Briançon in search of a pass with a view of Italy. He does not seem to have consulted Mr. Coolidge's edition of the 'Western Alps' (which mentions the Col de Malrif and Col de Malaure), or Signor Ferrari's 'Guida alle Alpi Cozie,' which notes the view of Italy from the latter pass, but in Muirhead's 'Blue Guide to the French Alps' he lit on a hint which helped him. The Col de Malaure was there stated to command a wide view of the Piedmontese plain. On a close inspection Mr. Bonus found to his delight that the pass not only offered this, in his opinion essential, qualification, but combined to his satisfaction all the features called for to fulfil the requirements of the classical narratives.

The fairest way to state Mr. Bonus's case may be first to set out the line of Hannibal's Alpine march, as he pictures it, reserving for subsequent discussion such difficulties in accepting his argument as may suggest themselves to a friendly critic.

Our author believes the Carthaginians crossed the Rhône, not at Roquemaure but at Tarascon, and leads them on up that river and

¹ See *A.J.* xxxvi. 426; *Geographical Journal*, lxiv. 241, 328, and 500.

the Isère to Grenoble. I shall confine my comments here to the further portion of Hannibal's march, that which lay in the High Alps. At Grenoble, or more exactly at Vizille, he is made to leave the track towards Gap taken by Francis the First and his army on their way to Italy, and to plunge into the gorges that lead to the Col du Lautaret. The first fight is represented as taking place below Bourg d'Oisans. That town, or village, Mr. Bonus identifies as the πόλις where Hannibal found provisions for three days for his host and baggage train.

These three days bring Hannibal through more gorges and over the Col du Lautaret to the upper waters of the Durance in the neighbourhood of Briançon. Here he fails to learn anything of the Mont Genève, though its top is within a few miles. The Durance at this point refuses to correspond to Ammianus Marcellinus's, and *à fortiori* to Livy's description of its passage, so Mr. Bonus suggests that a decrease of snowfall in the alpine climate in the last two thousand years may account for its diminished volume.

Hannibal, trusting to local guides, is next represented as being led up the Val Cerveyrette, a glen which opens E. of Briançon. This brings him to the pass at its head, the Col de Malrif (9200 ft.), a gap not on the watershed but on a ridge giving access to the upper part of the Guil valley. Mr. Bonus places the combat at 'The White Rock' in a gorge below the pass. But failing to find a 'White Rock' at hand, he urges that the word λευκόπετρον 'must mean and be translated an open stony place,' and he furnishes a photograph of a bluff commanding the path to the Col de Malrif which he inclines to identify with it. He pictures Hannibal, while waiting on the pass for his rearguard, as taking note of the forward view and discovering that over a lower ridge some seven miles distant—the alpine watershed—it included a glimpse of the plain of Piedmont.

But in order to approach this final obstacle the Carthaginians have first to descend some 4000 ft. into the basin of Abriès. Next day the host accomplishes this and wanders on, till it camps at about 7000 ft., an hour below the far-sought pass, a gap in the alpine crest now known as the Col de Malaure (8400 ft.). Here, and not on the actual ridge, Hannibal rests his men for two days, but, apparently, neglects to take the ordinary military precaution of sending out scouts to see what the ground may be like on the other side.

At the start on the third morning, finding his soldiers in low spirits, he halts them in a hollow below the pass on the *western* slope, and harangues them in the terms reported by Polybius and Livy. For the view he had obtained from the Malrif enabled him to assure them that they were climbing the last steep and that henceforth their path would lie all downhill. Mr. Bonus believes himself to have identified the spot where this dramatic scene took place—a former lake-basin, 150 yards by 100 in extent, lying twenty minutes below the actual

pass and shut in by neighbouring heights. This proved to be a narrow ridge, the descent from which, on the Italian side, lay across steep beds of shale raked in places by the discharge from gullies, some of them patched with snow. Finding no room for a camp on the crest, and no track suitable for the baggage train and elephants on the other side, the army returned to its quarters on the western slope until one could be made.

There are obviously many grave difficulties and discrepancies to be got over before the Col de Malaure and its approaches, including the Col de Malrif, can be accepted as, in Mr. Bonus's words, corresponding exactly with the classical texts and presenting all the local details required by them. I can only deal here with a selection from among these difficulties.

The Col du Lautaret is defended on the W. by a series of gorges, and the Roman road that made it possible for armies was of a relatively late date. It is hardly credible that in Hannibal's time any *πόλις* capable of supplying food and forage for three days for an army of over 30,000 men and animals can have existed in the situation of Bourg d'Oisans. Is it likely that, arrived in the neighbourhood of Briançon, Hannibal would have heard nothing of the Mont Genève, only a few miles distant? Livy's account of the difficulties of the Passage of the Durance (and of the scenery surrounding it) can only be brought into accord with the character of the river and its bed in the Briançon district by assuming a change in the alpine climate in the last 2000 years. But the fact that the Great St. Bernard was in Roman times a frequented and important military pass is a proof that the alpine climate cannot have been seriously worse at that epoch than now: otherwise the snow-level would have been below the summit of that pass. Again, *Λευκόπετρον* means what it says; to translate it by 'an open stony place' is surely unwarrantable. Can a lake-basin without any view of Italy be said to correspond to a promontory with a panorama? Does a slope of screes exposed to stonefalls fit in with the vivid details of the perils encountered in the descent?

These seem to me to be considerations to be weighed both severally and in the bulk. But I would not rest the case against the Col de Malaure exclusively, or mainly, on them. Every player in this ancient game feels himself justified in interpreting and modifying the details of the classical narratives so as to make them fit the local facts of the route he favours. In this matter very few of us are in a position to throw stones. I would justify my scepticism as to Mr. Bonus's conclusion on broader and, I hold, stronger grounds.

What seems to me a determining argument in the inquiry 'Where Hannibal Passed' has been very commonly overlooked. Which is the more likely: that historians compiling, one sixty, one two hundred years after the event, an account of Hannibal's March should fail in accuracy of local detail, and yield to the temptation of enlivening their narratives by picturesque touches; or that a

great general bent on crossing the Alps should neglect the more fertile valleys and the lower and easier passes and lead his army through barren highlands and across ridges of over 8000 and 9000 feet?—and this in October!

It will, doubtless, be answered that Hannibal was without adequate information and was misled. But in the 48th Chapter of his third book Polybius has taken special pains to refute this contention. The Alpine March—he tells us—had been considered with the Gaulish chieftains at the conference held at the Crossing of the Rhône. Stragglers may have been misled, or have missed the track—as Livy suggests—but the main lines of the march were undoubtedly laid down on a preconceived plan.

Mr. Bonus in the course of his argument raises a number of more or less relevant points into which I cannot here follow him.

He regards Chapter 39 of Polybius's third Book as an interpolation. But the weight of authority is heavily against him.

To account for Strabo's statement that there is a large lake in a hollow of the Alps near the sources of the Durance and the Dora Riparia, he discovers an old lake-bed, and invents a temporary lake in the Val Cerveyrette. This seems needless. In the time of Strabo the knowledge of the Alps was vague, and the distance between the river-sources and the lake on the Mont Cenis would not have been counted serious. It is only some twenty miles.

There is one more assertion made by Mr. Bonus I cannot pass without a protest. He writes:

'It is certain that on the twelfth morning of the Transalpine march when the Carthaginians went up to the pass from their two days' camp at the base of the ridge, there was no view at all. It had snowed heavily over-night and no one who knows what happens in the Alps at a height of 8000 or 9000 ft. when the weather breaks, will need to be told that the clouds were hanging thick on the pass and in the Val Pellice beyond and that it was impossible to see any distance.'

I have an acquaintance with the Alps extending over seventy years, and I have spent whole summers in them. My experience is that an autumn snowfall is as often as not a sign of a speedy improvement in the weather. It shows, as a rule, that the wind has gone north, and is frequently followed by a brilliantly clear morning.

Why does Mr. Bonus press on his readers this meteorological fallacy, which is in no way essential to his main argument? Why, after he has with much labour brought the Carthaginians to a pass commanding a glimpse of Italy, should he be at pains to blot out the vision from them by hypothetical mists?

Mr. Bonus's essay is not likely, I fear, to close the old controversy: it will smoulder on until M. Ferrand realizes his ambition and succeeds in digging up Hannibal's two days' camp? But Mr. Bonus earns our thanks for having added the Col de Malaure to the scanty list of passes with a view. And, if he would consent to bring

Hannibal round to Mont Dauphin by the Col Bayard and Gap, and fix the battle of 'The White Rock' in the lower Queyras defile, I might feel that the Vars-Argentière route had found not only a plausible but a formidable rival.

I would venture a further suggestion. Since Mr. Bonus has persuaded himself that the view of Italy which inspired Hannibal's eloquence was not obtained from the pass over the main chain, why should not he adopt the neighbouring and lower Col de la Croix (7576 ft.) as an alternative route? The 'Alpine Guide' (Coolidge's edition) says of it: 'This pass is one of the easiest and most frequented in the entire chain of the Alps.' Its top is described as 'a pasture plateau,' while on the Italian side at the head of the Val Pellice we read of 'a mere ravine' and 'an impassable gorge' some 2000 ft. below the top. These surely are qualifications worth considering in looking for Hannibal's Pass!

Mr. Bonus's volume contains some useful illustrations; but a meagre and inadequate diagram does duty for a map.

DOUGLAS W. FRESHFIELD.

Note by Mr. A. R. Bonus, the author, in answer to Mr. Freshfield's review, submitted to him by Mr. Freshfield's suggestion.

If the necessary limitations of the space courteously conceded to me compel me to be brief to the verge of curtness, I must not on that account be regarded as unwilling or unprepared to argue this matter at length and in detail, given an opportunity. One general remark—where the record is not reconcilable with facts, we must needs reject it; where it is reconcilable, as in the matter of the view, to reject it savours of the arbitrary.

'Here (Briançon) he fails to learn anything of the Mont Genève.' He was making for it ('Where Hannibal Passed,' p. 13; Livy V. 34) and was deliberately misled ('W.H.P.' pp. 14, 36).

As to meaning of λευκόπετρον, see 'W.H.P.' p. 52.

'Neglects the ordinary military precaution, etc.' Hannibal had no reason to expect an enemy on the Italian side of the pass, but rather the contrary—see, for instance, the matter of the Boii (Livy XXI. 29 and 25). As to the ground, I understand that the E. side of the Col du Lautaret is easy, as is the E. side of the Malrif, so he may well have assumed that the E. side of the Malaure would be easy too. Further, after being badly cut up on the eighth day, his force may have been rather out of hand.

'The Roman road that made it (Col du Lautaret) possible for armies, etc.' For what can be done by troops, both as regards altitudes and distances, in roadless and mountainous country, see Col. Henry Spalding, 'Suvoroff' (Chapman and Hall, 1890). See also Livy's account of the great Gaulish invasion of Italy (V. 34).

'It is hardly credible, etc.' This must be a matter of opinion; the troops were on short rations (Polybius III. 60).

'It is likely, etc.' See above.

'Livy's account of the passage of the Durance, etc.' Mr. Freshfield has misunderstood me; I place the crossing, described by Livy, immediately after departure from the Rhone Crossing camp. (Livy XXI. 31) first mentions the Durance, it is true, *after* alluding to the tribes whose countries H. traversed; but this is consistent enough with an earlier crossing. If I write that I have motored from Midhurst across Hampshire, Dorset, and Devon, meeting with no difficulty until reaching Winchester, I do not thereby imply that Winchester is in Cornwall.

For the Durance crossing at Briançon, see 'W.H.P.' p. 41. As to diminution of river-flow owing to disappearance of glaciers, see a recent paper by Sir Aurel Stein on desiccation of Tibetan oases.

As to translation of λευκόπετρον, see above.

'Can a lake-basin, etc.' For full explanation, see 'W.H.P.' pp. 47, 55.

'Does a slope of screes, etc.' The first part of the descent is not a slope of screes, but something much worse, probably the worst place the Carthaginians had yet found. They were not accustomed to mountains, or to snow.

'What seems to me, etc.' With all respect, I have never even suggested that Hannibal contemplated crossing ridges 8000 or 9000 ft. high, or taking fifteen days on his trans-Alpine march. He intended to take five and a half days (see 'W.H.P.' p. 13), and to travel by a route described in Ball's *Alpine Guide*, 'The Western Alps,' Mr. Coolidge's ed. 1898, p. 108, as 'the most direct route . . . by the comparatively low pass.'

'The weight of authority is heavily against him.' But I have on my side W. J. Law, 'Alps of Hannibal,' and the expert opinion cited by him.

'To account for Strabo's statement.' With submission, no, but to account for disagreements, even in Livy's day, regarding H.'s route. I do not think there can be any doubt of the existence, at one time, of a lake in the 'great marshy plain' ('Western Alps,' ed. 1898, p. 84), in the upper Cerveyrette Valley. Whether it was Strabo's lake does not affect my argument.

I am perfectly willing to accept Mr. Freshfield's assurance that there may have been a clear view of Italy from the Malaure on the twelfth day of the march. This also in no way affects my argument, and I should be happy to explain this and other matters did space permit, but I fear it does not.

Alpinisme Hivernal. Par Marcel Kurz. Payot, Paris. 25 fr.

It is sometimes asserted that when people review books they read the first chapter and the last, and skip the rest. This book has obviously not been written with this in mind; nor has the present reviewer attempted to work upon this principle. One casual glance was sufficient to make him read the middle portion first.

The first and shortest of the three parts into which the book may well be divided consists of a detailed account of the growth of winter mountaineering in the Alps. The first chapter is confined to the period when the utility of ski was not realised; and the second to the more recent period when ski had been brought into use. Both chapters are pertinent to the subject; but inasmuch as they consist largely of names and dates connected with winter first ascents they make rather dry reading. Such detailed information is of considerable importance from an historical point of view, but could have been given more briefly, and more clearly, in tabular form.

The last 183 pages are chiefly devoted to accounts of the author's own winter expeditions. They come in natural sequence after his description of the methods which he employs; and demonstrate that they have been put to practical test. If the British reader finds that the author has devoted too much space to descriptions of his feelings and of the scenery, he should recollect that this is merely due to national temperament, and that we are accustomed to express ourselves in a more prosaic manner. This section, which occupies the last half of the book, is of a more popular character than the first half, with the technicalities of which it stands out in strong contrast. It helps the book to satisfy a different class of reader, and thereby to increase its circulation. The best books often have but a limited demand; and for that very reason they run the risk of dying a natural death; or a more violent one in the form of a publisher's remainder. In the present writer's candid opinion, the first and last sections of the book, together with twenty full-page illustrations, well reproduced from excellent negatives, go to make up the two least interesting thirds of the whole; and the author may take it as a compliment if one says that they could also have been written by others not possessed of Marcel Kurz' special qualifications.

The middle third of the book, however, stands upon an entirely different footing. It is a veritable gold mine. It is an authoritative account of the technique of winter mountaineering. It is brief, and yet clear; and, best of all, it is convincing, not only because it has been written by one who thoroughly understands his subject, but also because it is logical. It will be found both interesting and instructive to all who wander about the hills, whether they do so in summer or in winter. It conveys the impression that the author is primarily a summer mountaineer, in the sense that he would seem to have learnt summer climbing first. The result is that knowledge of summer principles is taken for granted; and this greatly simplifies the explanation of the winter problem. To assume that the reader has summer experience appears perfectly correct, for it is only in summer that one can see the nature of the ground upon which the winter snow will obtain its foundation; and therefore it is only upon summer experience that sound principles of winter mountaineering

can be founded. The author also assumes that the reader is conversant with the principles of ski-ing; in fact that he can not only climb hills in summer, but can also use a pair of ski efficiently. With these premises he undertakes the still difficult task of explaining how hills may be safely climbed in winter. He succeeds in doing so most effectively; and it is interesting to notice, as one reads on, how it becomes more and more evident that the same broad principles which have now for many years been applied to summer climbing also hold good for winter; while, at the same time, the technique of winter mountaineering cannot be separated from that of ski-ing. It is only in tactical details that the summer principles have to be varied; and it is only in detail that one has to diverge from the ordinary technique of ski-ing, when once the summer snow line has been passed.

Although, as has already been mentioned, the principles laid down by Kurz appear to be logical, it may well be asked 'Are they sound?' Members of the Alpine Club will not ask 'Who is Kurz?' They know of him, and they know of his father, and they know of his father's book. But others may ask the question. The present writer, before he knew of this book, had the following conversation with one who is probably the most experienced British winter mountaineer:—'Do you really understand winter snow?'—'No'—'Is there anyone who does?'—'Anyway Marcel Kurz does.' So Kurz presumably knows what he is talking about; although other experts may perhaps, after the manner of experts, not agree with him entirely. Be this as it may, Kurz is first in the field with a comprehensive explanation of the general principles of winter mountaineering; and until someone else succeeds in proving that he knows better, and puts his knowledge into print, the middle section of the present book must be regarded as the standard work.

The utility of this part of the book is not limited to those who penetrate above the summer snow line in winter. Mountaineering starts when the first danger to be avoided is encountered, and so in winter it starts soon above the tree line, and in spring may even start below it; and therefore, while the character of an ascent in winter does change as the summer snow line is passed, the author does not make any attempt to limit himself to considerations which only apply above that level. This makes an extensive increase in the number of British readers who will be interested, and makes it all the more desirable that an English edition should be brought out. Many cannot or will not be bothered to read a book in a foreign language; and for many more what is read in a foreign book is less easily understood or remembered afterwards; and the standard of winter expeditions undertaken by British travellers should be much improved by the help of an English version of the present book.

It is not only in the information it contains that the value of this part of the book lies. It affords some indirect lessons which some

would do well to learn. The ordinary technique of ski-ing is accepted without dispute; but the spirit in which ski-ing is sometimes practised, as an end in itself, as opposed to a convenient means of wandering about the hills, is completely rejected. Kurz assumes that when God made the hills He intended them to be climbed, and not to be used as glorified toboggan runs; and that they were made to be climbed safely, and, as winter days are short, quickly in consequence. He therefore attaches as much importance to the correct manner in which to go uphill, as to the correct way in which to run down. As it takes more time to climb a hill than it does to come down again, it follows that more time can be saved by increasing one's speed uphill, than by coming down more quickly. But Kurz goes further than this. He says that when coming down to the summer snow line the main difficulty is to go slowly enough. It is perfectly delightful to the present writer, clumsy on ski, to read this, and distort the intended meaning to suit his own purposes. Again, as hills were made to be climbed, a climb does not end when further progress on ski becomes impracticable or unpleasant. It only ends when the summit is reached; and the whole spirit in which Kurz writes indicates that he considers that ski should be discarded when proper, and further progress made on foot. The result is that while most of what he writes refers to ski-ing, he is not writing a book on ski-ing, but one on winter mountaineering; and what he says goes far to indicate that the winter game may pose as a humble rival, both in enjoyment and interest, to the summer one, if it is tackled in the same spirit as the latter.

Lastly, there is an indirect lesson for a small but not negligible group of members of the Alpine Club. Some seem to hold that the club is not concerned with ski-ing. If they will only read this book they can scarcely fail to see that modern winter mountaineering is so irretrievably mixed up with ski-ing, that to persist in their present attitude must ultimately lead them to the logical conclusion that the former is also outside the scope of the Club's activities. Kurz mentions the fact that the Swiss Alpine Club fell into the same trap in the early days of Alpine ski-ing, but have since realized and corrected their error. May the Alpine Club do likewise.

The sincere thanks of both summer and winter travellers in the Alps are due to Marcel Kurz for his most interesting and instructive book; and we members of the Alpine Club in particular will greatly appreciate the fact that one of our own colleagues has done so much to further the most recent development in mountaineering.

The Mountains of Snowdonia. Edited by Herbert R. C. Carr and George H. Lister. John Lane, The Bodley Head Limited. 25s. 405 pp.

THERE are two possible methods of compiling a volume such as this, which aims at describing the history, science, literature, and sport centring round a particular region. It is possible for one man

to 'get up' the various subjects, and to produce a book which under such circumstances should not suffer from overlapping and should benefit in coherence as being the production of a single hand. On the other hand, such a volume will almost certainly lack the freshness and vitality that first-hand knowledge alone can give; it is bound to be of the guide-book type, and to give that impression of flatness which always marks the work of those who write, not from fullness of knowledge, but from information assiduously collected for the purpose. The second method, which promises greater results, is to obtain contributions upon each topic from someone who has mastered it. The dangers of this method are obvious: overlapping, lack of coherence, want of proportion, and tiresome changes of style and treatment.

The editors of this volume have faced, and for the most part very successfully overcome, these difficulties. There is no question but that the contributors are all very well qualified for their respective tasks. The editors may be congratulated on getting so good a team together. But editorial duties and responsibilities do not end there. There is the task of arrangement, of filling the gaps, of selecting illustrations, and of finishing off the volume with useful summaries of information; each of these duties has been admirably fulfilled.

The first section opens with a contribution by Professor J. E. Lloyd on 'The Mountains in Legend and History.' Professor Lloyd has succeeded in giving no small amount of information, while avoiding a rigid chronological statement. Then follow chapters by Mr. E. W. Steeple on 'The Nomenclature of the Snowdonian Hills,' by Mr. Lister on 'The Coming of the Mountaineer,' by Mr. Carr on 'The History of Pen-y-Gwryd,' and by Mr. R. D. Richards on 'The Industrial Activities of Snowdonia.' It was a happy thought on the part of the editors to have included the last subject. It is somewhat of a novelty to include a study of industrial activities in such a volume as this. Most editors of similar volumes rigidly exclude descriptions of economic activities unless they are 'picturesque.' Surely in fact intelligent visitors do take as much, if not more, interest in the way that the inhabitants of their chosen holiday district get a living as in the geology which no self-respecting editor ever neglects. Our editors have apparently been a little nervous; they tell us that they have cut down Mr. Richards's contribution for lack of space. We wish that it had been longer, and, in particular, that he had told us more of that industry upon the scene of which Welsh mountaineering takes place—namely farming.

Dr. Greenley's chapter on 'The Geology of Snowdonia' opens the second section. It is seldom that the very difficult task of explaining complicated mountain structure, so that a layman can easily grasp it, is so admirably performed. Professor Orton has been more discreet than Professor Farmer. The former, writing on 'Bird Life,' has kept his secrets to himself, and those of us who have seen

'oologists' at work getting material for their egg cabinets can be thankful that he has done so. It is to be hoped that all the specimens of *Dryas octopetala*, the location of which Professor Farmer so exactly explains, will not find their way within a year or so into the collections of botanical enthusiasts. This section closes with chapters by Mr. Lockwood and Professor Orton on 'The Weather of Snowdonia' and by Mr. Lister on 'Cartography and Maps.'

The next section is devoted to literature, and there are two chapters, one by Mr. L. J. Roberts on 'Snowdon in Welsh Poetry,' and the other by Dr. E. A. Baker on 'Snowdonia in English Literature.' The last section is devoted to sport. Mr. Carr writes on 'Mountaineering,' and Mr. C. F. Holland on 'Modern Climbing in the Ogwen District.' Mr. Carr's contribution is in fact devoted to descriptions of mountain walking, and very excellent descriptions they are. He has a few notes on rock climbing, while Mr. Holland has a cheerful chapter wholly devoted to the achievements and activities of the modern expert. We miss in the text, though there is some compensation in the Appendix, a description and comparison of the different climbing localities of the region. This would have been really useful; the climbing localities are scattered, and many climbers, rather than risk a day in going to a new cliff of which they have only heard vague rumours, keep to the same old haunts round Pen-y-Gwryd and Ogwen. It is a matter for regret that the editors, with their unique knowledge of the whole district, have not given us such a survey. Also included in this section we have Mr. G. W. Young's 'Impression of Pen-y-Pass,' Mr. Priestley Smith's 'Camping in the Hills,' and Mr. Lockwood's 'Notes on Angling.'

The Appendices contain abundant information. Mr. Parry Williams attempts to instruct us in the pronunciation of Welsh names. But who can hope to succeed in this task? 'The sound of the Welsh LL is somewhat similar to that of the English letter L when aspirated. A better result can be obtained by placing the tongue to pronounce L, closing the passage on one side of the mouth, and blowing between the tongue and the upper teeth on the other.' Well-meant advice, no doubt, but it has the effect of making us think that the pronunciation of Welsh is beyond our capacities. 'Perfect pronunciation,' it is added, 'can be obtained only under the tuition of a native.' Unfortunately, however, even imperfect pronunciation may prove to be too much for us.

The editors have compiled a series of tables, gathering together much information as to heights, passes, lakes, rivers, and climbing localities. By an ingenious system of reference, all this information can be referred to five sketch maps of the principal mountain groups. These sketch maps are excellent; clear and simple in design they render it easily possible to pick up any crag or tarn by a reference back, by means of numbers and colours, to the tables mentioned above. This piece of work is clear enough proof that the making of this book has been a labour of love and not a mere

mechanical task. Evidence is everywhere to be found of the care which has been expended—in the illustrations to take only one instance. Those who love these mountains owe a debt of gratitude to the editors. The book is one of the best contributions to British mountain literature that has appeared for many a long day.

The Lake District is a centre for hill-walking and crag-climbing; Snowdonia is a centre for mountaineering. In Snowdonia the mountaineer can learn many of the elements of his craft. Snowdonia cannot compare with the Lake District in beauty of scenery. Among mountain groups throughout the world the English Lake District stands very high, taking all aspects into consideration. The complete absence of dull patches, the ever-varying charm of the scenery render it almost unique among mountain regions. In one aspect only is Snowdonia clearly superior, and that is in respect of mountain form. There is nothing in the Lakes to compare with Tryfan and with Snowdon itself. Thus from the point of view of the mountaineer Snowdonia takes a prominent place, and mountaineers will on that account be glad that such competent editors and experienced mountaineers should have chosen Snowdonia as their subject.

A. M. C.-S.

The Canadian Alpine Journal, vol. xiv (1924).

THE present volume of this journal is, as usual, full of varied and interesting matter. In the way of climbing, pure and simple, on ground which is otherwise fairly well known, there are short accounts of an ascent of Neptuak (in the Valley of the Ten Peaks), and of the second ascent of Mount Sir Donald by the W. face, a lively narrative of the first ascent of Mount Robson by a lady, and a detailed description of the third ascent of Cathedral Crags—a thrilling climb, which taxed severely the resources of the brothers Edward and Walter Feuz. Mr. Wates tells the story of his plucky attempts on Mount Geikie in 1922, and Mr. Val Fynn that of the successful assault in 1924, and of the conquest, relatively easy, of the neighbouring Mount Barbican. Mr. Wates took part in these expeditions also, as he well deserved to do.

The other mountaineering papers deal with more protracted trips. Dr. Monroe Thorington left Lake Louise on June 27, 1923, for an attack on the peaks of the Columbia Icefield, which he carried through with devastating success.¹ The outstanding feats: first ascents of the North Twin (the third in height of the peaks of the Canadian Rockies) and Mount Saskatchewan, and the second ascent of Mount Columbia, were accomplished in five days, enormous distances being covered on all three expeditions. Professor Hickson, starting nearly a month later, with the same principal object in view, was foiled in it by bad weather, but managed to achieve first ascents of Mount

¹ He has given a very full account of this trip in *A.J.* xxxv. 178–198.

Spring Rice (Lyell-Forbes group) and Mount Rhondda (Yoho-Waputik group), went up Mount Hector 'in order to complete his ascents of the 11,000 ft. peaks in the Lake Louise district,' and finished the season with the climb on Cathedral Crags, already referred to. Almost contemporaneously Mr. De Villiers Schwab was carrying to a triumphant conclusion his second expedition¹ to Mount Clemenceau, the last remaining 12,000 footer, and next in height to the North Twin. No other climbs were made, and the expedition from Jasper, out and back, lasted a month, but the prize was well worth it.

The revival of interest in the Columbia Icefield, neglected for so many years after the pioneer expeditions of 1898 and 1902, is noteworthy. Perhaps also the trip made by a large party of Appalachians right through from Field to Jasper (and thence onwards to Mount Robson), here described by Mr. Waterman, is likewise a sign of the times; and the two retrospective papers: 'Rockies a quarter of a century ago,' and the veteran Tom Wilson's all too brief 'Memories of Golden Days,' are as opportune as they are delightful.

Two more articles remain to be mentioned, equally remote in character from the preceding and from each other. One deals with nothing less than the original diary of the late Dr. W. B. Cheadle, hitherto regarded as joint author with Viscount Milton of the well-known work 'The North-West Passage by Land.' The diary seems to establish that Dr. Cheadle practically wrote the whole book, and throws a flood of new light on the whole of the absorbing story. The article is of extraordinary interest from many points of view, and sets one guessing how some other famous travel-books would fare if submitted to a similar test. The other article, entitled 'Controlling Mosquito Pests in Mountain Resorts,' is quite equally remarkable, and describes the methods of control recently initiated in Banff and its vicinity with admirable lucidity and literary skill. And this is how the glorious result is summed up: 'Banff is the first district in the National Parks of America where mosquito control has been attempted; and . . . it is one of the most difficult of the mosquito problems to cope with' (anyone who knows Banff will readily credit this). 'The results of the last three years' work have proved that the mosquito pest can be effectively dealt with here at very small cost.'

Les Alpes de Savoie. Vol. VI.: Le Massif du Mont Blanc. Par Emile Gaillard. Chambéry: M. Dardel. Price 25 francs.

THE previous volumes of this invaluable series have been reviewed in the JOURNAL as they appeared. M. le Commandant Gaillard now arrives at that group which, go where you will, never fails to call you back to its inimitable attractions.

The present volume covers the groups Trélatête Bionnassay-Goûter, M. Blanc proper, Brouillard-Peuteret, Maudit, Tour Ronde.

¹ For the first see *A.J.* xxxv. 44-49.

A second volume to cover the remainder is in hand. The book contains a series of skeleton maps, scale about 1:180,000, and several route-marked sketches, including one of the 'Way' to the Aig. Noire hut—quite useful.

The arrangement of the book is, of course, necessarily based on the Conway-Coolidge 'Climbers' Guides' and M. Louis Kurz's valuable 'Guide du M. Blanc,' of which it might be said to be a revised edition. The infinite care which the Commandant bestows on all his work is much in evidence in the present book, which is indispensable to the climber.

The volume is smaller than the earlier volumes of the series, and consequently lighter and more convenient for the pocket.

If one may venture on a few criticisms, it seems that the skeleton maps, very useful in the lesser known districts covered by the Commandant's earlier volumes, are scarcely needed in the Mont Blanc group, of which several fairly good maps exist. Coming to details, one might remark that, in some cases, the times given are taken from notes of previous ascents without allowing sufficient latitude for variation of conditions. For example (p. 74), it is stated that the E. arête of the Aiguille de Bionnassay can be done in half an hour with good snow conditions, but may demand anything up to two hours. The present writer, led by one of the fastest professional step-cutters in the Alps, took two and a half hours ('A.J.' xxxiii. 426).

In the description of the ascent of Mont Blanc by the Brouillard and Fresnay glaciers (p. 112) it is stated that the descent from the Col Eccles to the upper basin of the Fresnay glacier is the most difficult part of the climb. This is by no means the case, and we are at a loss to explain the transition from 'plus scabreuse' in Kurz (p. 220) to 'plus difficile' (p. 112). This couloir is certainly somewhat dangerous in the lower part, but it could not possibly be described as difficult.

We are glad to note that the nomenclature Pic Eccles and Col Eccles has been adopted (pp. 134 and 135).

We are tempted to believe that the second ascent of Mont Blanc by the S. face (pp. 110 and 112) followed, above the Col Eccles, approximately the line of the first ascent. In any case there does not seem room for the wide divergence shown on the sketch (p. 110).

We welcome this volume which was much needed by climbers, the latest edition of Kurz (1914) being out of print. We congratulate M. le Commandant Gaillard on his further industrious and efficient contribution to Alpine literature.

E. G. O.

Entre Zermatt et Zinal. Par W. A. B. Coolidge.

THIS is another of those learned and exhaustive monographs for which the author is famed wherever Alpine literature penetrates. He recounts in detail the history of the three 'cols historiques,' viz. Col Durand, Triftjoch, and Biesjoch.

He proceeds to show that the first was first crossed from the Val d'Anniviers, and was probably a limb in a through path to the Val Tournanche in existence probably when glaciers were far less active.

The Triftjoch has always been peculiarly attractive and Mr. Coolidge himself published years ago in 'A.J.' xvii. Ball's notes. How the mules of tradition crossed this Col I do not know!

The Biesjoch seems to be first mentioned by J. D. Forbes, and is even to-day seldom crossed, as neither the rocks of approach nor the icefall succeeding them are too convenient.

Die ersten 50 Jahre, Sekt. Blümlisalp, S.A.C.

THIS beautifully got up book is the pious offering of members to their unit. It gives the life history of this very energetic section of which one of our honorary members, M. Paul Montandon, is, after many years of devoted membership, now the Ehren-Präsident. The section is the owner of the present fine Blümlisalp Hut, the fourth on the same site, and of the useful hut in the Baltschieder Valley, whence the E. arête of Bietschhorn can be ascended and several fine rock climbs, including the difficult Jägihorn, made. The record of the section in this respect, as in others, is a fine one and is a notable example of what limited funds under capable and devoted management can produce for the advantage of climbers of all nations.

J. P. F.

Bibliografia Alpinistica—Storica e Scientifica del Gruppo del Monte Rosa (from the Théodule to the Monte Moro), 1527-1924. By Dr. Alberto Durio. Novara. Instituto Agostini.

THIS brochure of 84 pages is a marvel of industry. The author has searched through numberless Italian publications besides the Journals of the Italian, English, French, Swiss, Austrian, and German Alpine Clubs, and has set us all out in alphabetical order with our literary contributions ranged below. Topographical maps are conveniently registered by themselves. At the end is a classified index. The student of Alpine history is under the greatest obligation to the author for his indefatigable researches.

Monte Cervino. By Giovanni Bobba. Published by the University Section of the C.A.I. Monza.

Few men can be so well qualified to write of the Cervin as the author, who makes his summer home at its foot. He sums up admirably the difficulty and duration of the expedition, fills a chapter with the geology, structure, and glaciology, and then gives a detailed account of practically all the routes made up the great mountain. As a complete and cheap guide-book (L. 3) it is all that could be desired.

Bibliographie Alpine, 1920-23. Par H. Ferrand. Le Pic de Belledonne et son premier Guide.

Of all Alpine writers of to-day surely our Hon. Member, M. Henri Ferrand, is the most industrious. The present book analyses several of the principal Alpine publications, year by year and group by group, thus affording a very convenient summary. Needless to say the ALPINE JOURNAL is treated with much appreciation by the distinguished historian of the Alps.

The Pic de Belledonne, the great outlier of the Dauphiné, of which Commandant E. Gaillard issued a complete guide-book last year ('Les Alpes du Dauphiné,' Part I.), is the climbing ground for the Grenoblois and Lyonnais, and offers scrambling of every degree. Our people in their haste for greater things have paid it slight attention since Richard Pendlebury, with his two men from far-away Unser Frau, made a new route some fifty years ago. M. Ferrand's brochure is a tribute to a worthy old chap, whose 'guiding' at times amounted to following his employer!

The Mountain Club of South Africa, 1924. Published by the Cape Town Section. 2s. 6d.

THIS is a well-written account of the work of the very active and enthusiastic mountaineers who dwell at the foot of Table Mountain, up whose ridges and faces¹ and gullies, they have made over 200 routes—some of them of quite appalling difficulty. In 1921 they 'discovered' a new group, 'The Cedar Mountains,' and their surplus energies are now turned to them. There is an admirable article by my friend, Mr. K. Cameron, A.C., with a sketch map, which together give one a good idea of the country. Mr. A. L. Hall, no doubt a son of the famous fruit farmer, writes an interesting paper on the Barberton Mountain Land, familiar to many from the old mining days of the 'eighties. Mrs. Ross² returns once more to Mt. Kenya, which has never been reclinbed since the first ascent by Sir H. J. Mackinder with Courmayeur guides in 1899, notwithstanding the repeated attempts made by Dr. Arthur and other Nairobi enthusiasts. The peak is still defiant, but the party had a delightfully strenuous fortnight round about it. The volume is well illustrated and shows what very real mountains exist down in old South Africa, whose call is never failing to him who has once lived beneath its stars. Dr. Hewat, the President, is indefatigable in keeping the Club together, with the loyal support of Mr. Barnard the Hon. Secretary, Mr. White the Hon. Treasurer, and a very representative and influential committee. The editor, Dr. Houghton, deserves great credit for his Journal, if he will allow another editor to say so. The book is the record of a *very live lot*. I miss the name of the veteran 'T. J.,' but I remember he was climbing Schreckhorns and Eigers and suchlike

¹ The pictures, p. 85, show the kind of face!

² Cf. *A.J.* xxxiv. 329, for her previous attempt.

that year, carrying the heaviest pack he could possibly make up, lest he got out of practice !
J. P. F.

Guide Vallot : Massif du Mont Blanc description générale. Vol. I. Paris : Fischbacher. About fr. 22.50, post free.

WE have already reviewed the admirable 'Les Aiguilles de Chamonix' (p. 205), which is the first of four volumes on the high mountains of the Chain. The second, on the Verte group, by M. Henry de Ségogne, who has done last season and this the two greatest routes up that mountain, is promised shortly.

The present volume is of a scientific and historical nature. Section I. deals with the pre-history right up to modern times. The other sections treat of the geography, geology, formation and movement of glaciers, vegetation, and climatology. The Massif in literature and science has a monograph all to itself, while there is a further monograph on the cartography, nomenclature, and altitudes. There are a mass of illustrations and four maps.

Few people know how much scientific enthusiasm and almost unlimited expense the Vallot family have devoted to the Group. Henry and Joseph Vallot are now dead, but their work is continued by M. Charles Vallot with undiminished devotion, and the present exhaustive monograph bears every trace of a labour of love.

Every mountaineer must be deeply grateful to M. Vallot and the devotedly enthusiastic group of young and eminently competent mountaineers whom he has gathered about him.
J. P. F.

Der Hochtourist in den Ostalpen. 5th edit. Vol. I.: The N. Alps from the Lake of Constance to the Isar. Edited by Hanns Barth. Price, post free, 10 marks.

THIS is the long-expected revision of the famous Purtscheller-Hess Climbers' Guide, and in the very capable hands of the new editor loses nothing of its admirably accurate completeness. The present volume contains six marked sketches—far too few—and a series of skeleton maps, and covers a country comparatively unknown to English travellers.

The other volumes, to follow at intervals, are :

Vol. II. Karwendel, Kaisergebirge, Watzmann district.

Vol. III. Dachstein, Ennsthal, etc.

Vol. IV. Silvretta, Oetzthal, Stubai, etc.

Vol. V. Hohe Tauern, etc.

Vol. VI. Ortler, Presanella, Brenta, etc.

Vol. VII. Dolomites.

Vol. VIII. Julian and Carnic Alps.

There are also short chapters on the geology, plant, and animal life of the country. The new edition is much handier, both in form and weight.

The books are indispensable to every climber in the Eastern Alps.
J. P. F.

Alpinismus in Bildern. By Alfred Steinitzer. 2nd edition. Piper, Munich. Price, 30 marks.

THIS is a new edition of a most remarkable collection of mountain pictures of every kind, from the earliest times up to the present. The first edition, 1913, was reviewed by Dr. C. Wilson in 'A.J.' xxviii. 115 seq., who wrote: 'It is a beautiful book of illustrations which every lover of mountaineering should possess.' The new edition is considerably enlarged and chapters brought up to date, while the course of the war in the mountains is treated in a very complete and instructive manner.

The book can be inspected in the A.C. Library.

Der Ruf der Berge, the Alpine Papers of Edmund von Fellenberg (in German). Edited by Dr. Ernst Jenny, with 32 full-page illustrations. Published by Eugen Rentsch, Zurich. 10s. post free.

IN the early 'sixties v. Fellenberg was the contemporary of C. E. Mathews, H. B. George, Sir George Young, Hornby, Philpott, and other of those lean, active Englishmen who, thanks in the first place to their own energy and endurance, and scarce less to the staunchness and fast developing skill of their Oberland guides, of whom Chr. Almer and Melchior Anderegg were the chief, did so much to open up the great peaks of the Oberland.

Von Fellenberg was not only their contemporary, but their equal in enthusiasm and determination, and, but for the severe handicap of fast increasing weight, would have had even a finer sheaf of ascents to show than he actually has.

He was a voluminous writer, and it is a happy idea of Dr. Jenny to collect his Alpine papers and to elucidate them with a magnificent series of up-to-date photographs.

Von Fellenberg differed from our people in one way. They pitted themselves for the most part against the great peaks. He did that also, but, with the advantage of proximity, he found delight in the wild solitudes of valleys like Bietsch, Baltschieder, Gredetsch, to-day even little known.

His principal ascents among the higher peaks comprised Aletschhorn (second ascent), Schreckhorn (second ascent), Lauterbrunnen Breithorn (first ascent), Jungfrau from the N., Bietschhorn (first ascent by W. arête), Mönch (first ascent N. face). He was the first to visit many other less important summits and to cross hitherto unknown passes.

He has a happy way of describing his adventures, never forgetting to bring forward the good points of his guides.

He seems to have resented the intrusion of the English climbers in his Swiss mountains, and even to have viewed with disfavour the great Oberländer guide, Christian Almer, who was so often their chosen leader as to earn the name of *Engländerführer*.

To him, in fact, was due much of their success.

We, of course, have had to suffer similar intrusion into almost every sport that seemed originally purely English. We have met

our competitors to the best of our ability, and have never failed to learn from defeat fresh means to victory. And so I think has been the effect of the English intrusion. It developed the passion of mountaineering at a much greater rate, so that to-day the Swiss amateur is second to no other nation, and the Swiss guide of the front rank stands, with very few exceptions, much ahead of the guides of every other country. This intrusion also to some extent originated, and has continued to build up, the Swiss hotel industry, which is unrivalled. You can be practically certain of obtaining in every Swiss hotel value for your money and fair and hospitable treatment.

So it was all for the best !

CORRESPONDENCE.

Winter Expeditions

Aux Editeurs de l'Alpine Journal,
Alpine Club,
Londres.

MESSIEURS,—Comme l'A.J. de novembre contiendra une recension sur mon ALPINISME HIVERNAL, je me permets de vous communiquer encore quelques notes inédites qui m'ont été obligeamment fournies, trop tard malheureusement.

En janvier ou février 1902, le *Schreckhorn* fut traversé par Mlle. Hélène Kuntze, en montant par l'Andersongrat.

Le 15 mars 1903, Mr. G. Hasler avec Chr. Jossi fit la 1ère ascension hivernale de l'Aig. Verte et le 6-7 janvier 1904, la 1ère ascension hivernale du *Gspaltenhorn*.

Dans mes *Addenda*, j'ai insisté sur l'expédition du Dr. David dans l'Oberland, en janvier 1902. Il fut, en effet, le premier à graver à l'aide de skis le Gr. Fiescherhorn, le Mönch et la Jungfrau. Comme je l'ai appris plus tard, ces courses avaient été faites en raquettes par Mr. Hasler quelques jours auparavant, et il est certain que sur la partie supérieure de ces montagnes, le Dr. David aura grandement bénéficié des traces encore fraîches de ses prédécesseurs.

Voici quelles furent les courses de Mr. Hasler en janvier 1902 :

He ascended Eiger with Dr. David on Jan. 12-13, 1902. On 16th he and Jossi went up Schwarzhorn (2930 m.). His porters, Peter Bernet and Rudolf Burgener, during the interval, made two journeys to Bergli hut with provisions. On January 17 Mr. Hasler and Jossi went there themselves and on 18th ascended Jungfrau, 19th Mönch, 20th traversed Gross Fiescherhorn, ascended Kl. Fiescherhorn (first winter ascent) and descended by Fiescherjoch to Ober-Eismeer, 21st descended to Grindelwald, seeing Dr. David's party on Kalli ascending to Bergli.

La 1ère ascension hivernale du *Kl. Fiescherhorn* (ou *Ochsenhorn*) que j'attribuais à Steiner et Trümpler en 1908 (p. 62) revient donc à Mr. Hasler.

Je profite de l'occasion pour prier tous ceux qui pourraient me fournir d'autres renseignements, de bien vouloir le faire, en vue d'une prochaine traduction de mon livre—et je regrette une fois de plus la modestie des alpinistes que ne publient pas leurs nouvelles courses.

Neuchâtel, le 4 novembre, 1925.

Veuillez agréer, etc.,
MARCEL KURZ, A.C.

Mr. Hasler has done a lot of winter climbing, details of which we only learn when an unfortunate author, necessarily in ignorance, ascribes a first ascent to the man who has troubled to notify it. Mr. Hasler's ascents, in nearly every case made with Old Jossi, one of the most indomitable mountaineers of his time, were originally done on snow-shoes and repeated later on ski. He is understood to be of the opinion that there is little to choose between the two methods, indeed that on difficult climbs much is to be said for snow-shoes.—EDITORS.

PROCEEDINGS OF THE ALPINE CLUB.

A GENERAL MEETING of the Club was held in the Hall, 23 Savile Row, London, W. 1, on Tuesday, May 5, 1925, at 8.30 p.m., Mr. John J. Withers, C.B.E., *Vice-President*, in the Chair.

The regulations with regard to the Annual Winter Dinner were submitted and unanimously approved.

The CHAIRMAN said that members would be delighted to learn that His Majesty the King's Medals of the Royal Geographical Society—namely, the Founder's Medal and the Patron's Medal—had been awarded to Brig.-Gen. the Hon. C. G. Bruce, C.B., M.V.O., and Mr. A. F. R. Wollaston respectively. He was sure that members would desire that the Honorary Secretary should convey to the President and to Mr. A. F. R. Wollaston their united congratulations on the honour conferred upon them.

The attention of members was drawn to the Fund now being raised for the erection of a Memorial to the late Edward Whymper at Zermatt, and they were informed that the Honorary Secretary would be pleased to receive their subscriptions towards the cost of this Memorial.

The CHAIRMAN announced that Mr. N. E. Odell had presented to the Club the originals of the last two messages he had received from the late G. L. Mallory on Mt. Everest in 1924. These had been framed, and would be hung in the Reading Room.

Professor J. NORMAN COLLIE proposed that a cordial vote of thanks be accorded the Honorary Secretary, Mr. Sydney Spencer, for his work in collecting and arranging the Exhibition of Alpine Paintings. This was seconded by Mr. W. M. Roberts, and carried with acclamation.

Dr. N. S. FINZI then read a paper entitled 'Some Climbs in the Bregaglia and the Dolomites,' which was illustrated with lantern slides. The Chairman, Mr. John J. Withers, Lt.-Col. E. L. Strutt, and Dr. Claude Wilson took part in the discussion which followed, and finally Dr. Finzi was accorded a very cordial vote of thanks for his most interesting paper and the fine slides he had shown.

ADDENDA AND CORRIGENDA.

P. 21, line 6, *for* '25,000' *read* '25,500.'

P. 21, line 15, *after* 'back' *insert* 'at 28,000 ft.'

P. 57, Plate, *for* 'Bush' *read* 'Buck.'

P. 60. The correct name is Miss Helen I. Buck, an enterprising member of the American Alpine Club.

P. 87, line 22, Mt. Sir Donald. Mr. Fynn's ascent was the second, see his own note 'A.J.' xxxvi. 413.

P. 88, Par. 2. Mt. Edith Cavell. The party is understood to have abandoned the E. arête at several points. The difficult portion of the arête was ascended later in the season by Professor Hickson with Conrad Kain.

**INDEX TO VOLS. XVI. TO XXXVII. OF
'THE ALPINE JOURNAL.'**

AN Index to Vols. I. to XV. was issued in 1892 when Mr. Wallroth was librarian.

The want of a single Index to the subsequent volumes is no doubt felt—but it is a question of expense, and it is felt that it will have to be paid for by the people who want it.

An elaborate index to Vols. XVI. to XXXVII. has now been prepared and typewritten by Mr. Mackintosh and can be consulted in the Club Library.

The cost of printing 500 copies is estimated to be £200 to £220.

At the present time about 140 members have notified their willingness to take a copy at 10s.

It is hoped that other members and readers will send in their names to the Assistant Secretary, 23 Savile Row, W. 1, *as early as possible*, so that there is justification for the work to be put in hand.

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ADDENDA AND CORRIGENDA TO VOL. XXXVII.

P. 21, line 6, *for* '25,000' *read* '25,500.'

P. 21, line 15, *after* 'back' *insert* 'at 28,000 ft.'

P. 57, Plate, *for* 'Bush' *read* 'Buck.'

P. 60. The correct name is Miss Helen I. Buck, an enterprising member of the American Alpine Club.

P. 87, line 22, Mt. Sir Donald. Mr. Fynn's ascent was the second, see his own note 'A.J.' xxxvi. 413.

P. 88, Par. 2. Mt. Edith Cavell. The party is understood to have abandoned the E. arête at several points. The difficult portion of the arête was ascended later in the season by Professor Hickson with Conrad Kain.

P. 197, line 2. Captain Porter's ascent of Mt. Sefton was the 7th. See his paper 'A.J.' xxxviii.

P. 247, footnote 2, *read* 'xxviii.'

P. 263, line 19, *read* 'Baroni.'

P. 265, line 40, *read* 'Rifugio.'

P. 277, line 21, *read* 'Gomagoi.'

P. 279, line 12, *read* 'Catarina.'

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RECORD OF EXPEDITIONS IN 1924 WITH PREVIOUS OMISSIONS.

(Issued in terms of the recommendation of the Committee, *Alpine Journal*, vol. xxiv. p. 517, 'So as to facilitate the exchange of information.)

- BEAUMAN, E. B.—Wildhorn, Wildstrubel (skis), Birrehorn (by the rocks), Sonneggrat, Jägigrat, Schwarzmies (traverse of whole arête), Rimpfischhorn (from Adler down N. arête), Weissmies, Nadelhorn.
- BLANCHET, E. R.—Pointe Beaumont (near Finhaut), Aiguille de l'M, Pointe Albert, Petits Charmoz, Aig. de la Persévérance, Aig. Verte-Grande Rocheuse-Aig. du Jardin, les Droites, Pointe Dufour-Grenzgipfel-Zumsteinspitze-Punta Gnifetti, Lyskamm, Col de Valpelline, Egginergrat, Weissmies, Laquinhorn, Jäghorn (by S. rib—three times), Point 3106—Cima di Cingino, Stellhorn-Stelli, Point 3059—Punta Giapin, Punta Laugera (3007 m.—Cresta della Lonze)—the *whole* ridge probably new, Bieshorn (from Biesjoch), Untergabelhorn, Castor and Pollux, Dent d'Hérens, Bieshorn (first ascent by N.E. face of Pointe Burnaby).
- BONACOSSA, A.—Monte Leone (first ski traverse—up from Ospice down Alpien Glacier), Weissmies (ski), Zwischbergen Pass (first ski traverse to Gondo), Badile Camuno, Pizzo la Scheggia (first ascent up N. wall), Colle Alessandra, Cima di Castello (from Colle Lurani, mostly over S.E. arête—variation), Auta del Vallonasso (first over N.W. arête), Oronaye (first over W.N.W. arête and first over S.E. arête), Guglie d'Enchiause II and III (first ascent), Tête de l'Homme, Aig. de Chambeyron (N.W. arête), Punta Grohmann, Punta Cinque Dita (W. arête traverse), Monte Sautron (S.E. wall—probably new), Pizzo Cornera (first S.E. wall), Rocca Blanca (first E. wall), Buc de Nubiera (first over E. wall and N.W. arête), Sasso di Conca (first over N.E. wall, descent N.W. wall—new), Cima Orientale di Lago Spalmo (first over N.E. wall, descent W.N.W. arête—new), Cima Settentrionale di Lago Spalmo (first over E. arête), Cima di Piazza (first over S.E. wall), Corno Grande-Vetta Orientale (first over N.N.E. arête), Cima Ferrand, Monte Niblè, Rocca d'Ambin, Pizzo di Pesciora, Cima di Cantone, Colle della Bettaforca (all on ski). Except Punta Cinque Dita and Colle Bettaforca, all guideless.
- BOOTH, HENRY.—Beich Pass, Dame Alys, Aletschhorn, Fusshörner (two summits nearest Bel Alp), Point 3468 (Rock peak N. of the Nesthorn), Nesthorn (ascent by N. ridge, descent by S.E.

2 *Record of Expeditions in 1924 with Previous Omissions.*

- ridge), Unterbächhorn, Finsteraarhorn (last three guided). With Messrs. G. C. Carlisle and E. L. Fothergill (all guided), Unter-gabelhorn, Furggrat, Wellenkuppe and Trifthorn from Triftjoch, Matterhorn (traverse Italian Ridge to Zermatt), Weisshorn. With Mr. C. H. Bosanquet: Wellenkuppe-Obergabelhorn-Arbenjoch, Bortelhorn-S.E. ridge-Mottiscia Gl.-Ritter Pass-Binn (a variant of route 106 Alpes Valaisannes, Vol. IV), Klein Schienhorn (both summits).
- BOSANQUET, C. H.**—See under Booth, Henry.
- BOWER, G. S.**—Aig. du Peigne (with R. S. T. Chorley), Aig. Ravanel (with R. S. T. Chorley and Dr. A. W. Wakefield), Doigt de Trélaporte (with R. S. T. Chorley). Alfred Couttet very kindly gave us most useful sketches of Peigne and Ravanel. Rubbers were worn. The climb once one knows it is not excessively difficult by any means.
- CANDLER, HENRY**—1920 (omitted): Albaron, Mont Aiguille. 1924: Vignemale, Brèche de Roland and Cirque de Salarous (from Gavarnie to Ordesa).
- CARR, H. R. C.**—Andermatt (winter), Piz Lucendro, Maigels Pass, Winterhorn and other minor expeditions on ski. Monte Genaro (Sabine Hills), Vesuvius, Soracte, Pointe de la Réchasse, Pointe du Dard (Massif de la Vanoise—at Easter on ski). Chamechaude, Mont Aiguille, Dôme des Petites Rousses, Col du Sabot (April and May), Meije (June 1—earliest ascent recorded in any season), Matterhorn (traverse), Lyskamm (traverse by Cresta Rey and E. ridge), Signalkuppe, Parrotspitze, Ludwigshöhe, Corno Nero, Vincent Pyramide, Castor-Pollux-Breithorn, Trifthorn (traverse Zermatt to Zinal), Schwarzhorn (Augstbord Pass), Stockhorn, Fillarhorn, Dreieckhorn. Passes: Lysjoch, Breuiljoch, and Col de Tracuit.
- CARR, R. C. C.**—1923: Buet, Col du Géant, Pte. de Planereuse, Col du Chardonnet, Pte. Dent de Vesivi (traverse), Tête Blanche, La Lurette, Col de la Dent Blanche and Col Durand, Col Théodule, Col de Val Cornera, Col Collon, Pte Vuibez. 1924: La Mouche-rotte, Chamechaude, Mont Aiguille, Petites Rousses, Brèche de la Meije, Le Moine, Dôme de Miage, Aig. de Béranger (traverse), Col de Tricot, Matterhorn (traverse from Italian side), Lysjoch, Ludwigshöhe, Signalkuppe, Lysjoch, Riffelhorn, Fillarhorn.
- CARSLAKE, W. B.**—With Oxford University Arctic Expedition in Spitsbergen and N. Eastland; in particular, sledging in N. Eastland for purpose of survey and exploration.
- CLAPHAM, J. H.**—See under Pigou, A.C.
- CLARK, A. J.**—Einser, Rotwandspitze, Gr. Zinne, Zwölfer, Elfer, Dreischusterspitze, Gr. Glockner.
- CODDINGTON, E.**—Ruinette, Tête de Millon, Plattenhörner (11,014—the N. summit 3357), Wellenkuppe.
- ELLIOTT, C. A.**—Berglistock (second peak), Wetterhorn, Schreckhorn, Wetterlücke, Monte Rosa, Dom.

- ELLWOOD, L. A. and V.—Carpathians: Porumbacul de Sus, Karl Wolff Weg, Negoi, Portita, Bergescharte, Scara, Surul, Bergescharte, Portita Pass, Vallea Caprealta, Stiol Pass, Pietrosu Ridge. Tatra Mountains: Lomnickystit (ascent Jordan route descent variation route), Jordanspitz, Schwalbeturn, Téryspitz, Eggihoferspitz, Chmielowskyspitz Fünfseenspitz, Jolandspitz, Deryspitz, Téryscharte, Polskybreben, Velickystit, Litvorovystit, Tetmajerovstit, Gerlach.
- FARRAR, J. P.—Grindelwald-Dru (attempt—gained main ridge—*this ascent ought to be repeated*), Ebnefluh-Gletscherhorn (traverse—new), Grossjoch (new), Jungfrau from Guggi (In 1883 I traversed by this route from old Guggi Hut to Eggishorn and in 1897 from Rottal Hut to Kl. Scheidegg—*its splendour is undiminishable*), Zäsenberghorn and traverse to Kalli (*recommended*), Aig. de la Persévérance (ascent S. arête, descent W.), Col de la Glière, Buet. Many mountain walks. Most unsettled season I remember.
- FIELD, A. E.—Wildhorn, Hahnenmoos, Bonderkrinde, Lötschen Pass, Mettelhorn.
- FINZI, N. S.—Sattelspitz, Kingspitz (difficult conditions), Klein and Gross Simelistock traverse (Engelhörner), Gässispitz (traverse), Triftjoch (much fresh snow), Théodule Pass, Col N. d'Herbetet, attempt on Gran Sertz foiled by weather, E. ridge of Herbetet including big gendarme, Gran Paradiso by couloir on N. face under hanging glacier, Grivola, Lyskamm traverse (much ice, no track, very cold wind), Trifhorn, Rothorngrat of Zinal Rothorn. Reached ridge direct from tributary glacier joining Trift glacier below Trifhorn. Seldom possible without danger and doubtful whether taken before. It cuts out uninteresting rotten part of ridge as one strikes the deep gap in ridge. Magnificent climb if ridge is kept to. We took all except final gendarme.
- FOTHERGILL, C. F.—Schwarzhorn via Jung and Augstbord Pass, Pointe de Zinal.
- FOTHERGILL, E. L.—See under Booth, Henry.
- FREEMAN, E.—Laquinhorn, Allalin Pass, Aletschhorn.
- GRAHAM, R.—August—Kl. Visoka, Lomnitzerspitz, Osteria, Polnischer Kamm (Tatra) (weather very unsatisfactory). December—Mont aux Sources (Drakensberg).
- HALLWARD, B. L.—See under Pigou, A. C.
- HEEMSTRA, B. T. van—Piz Corvatsch, Aig. d'Argentière (traverse), Grand Combin.
- JACKSON, W. S.—1914: Untergabelhorn (traverse), Furggengrat, Lyskamm, Riffelhorn (from the glacier). 1915: Pichincha (alone), Ataccatzo (alone), Corazon to the shoulder (did not like the look of the rest alone).
- JOSELAND, H. L.—Lötschen Pass, Roussette, Petite Dent de Veisivi (traverse twice), Pigne d'Arolla.

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- LING, W. N.—Titlis, Gwärtler, Tannenband, Ammertén Pass, Thierhörnli, Rothe Kümme, Laquinhorn, Fletschhorn, Adler Pass and Strahlhorn, Monte Rosa to Sattel (snowstorm).
- LONGSTAFF, T. G.—Buet, Tour Noire (severe conditions).
- MONRO, C. G.—Grande Aig. Rousse, W. Levanna, E. Levanna (traverse), Aig. Pers, Grand Paradis, Tresenta (traverse), Ciarforon (traverse), Bec du Chardoney, Aig. de Crête Sèche (traverse), Mont Gelé, Bec de Luseney, Dent Parrachée, Pointe de l'Echelle, Aig. de Polset (traverse), Aig. de Pécelet (traverse), Aig. Doran (traverse) (the weather conditions are responsible for much).
- MONTAGNIER, H. F.—Pierre Cabotz, Dent du Midi (Haute Cime) Cime de l'Est (twice), Petite Dent de Morcles (twice).
- MOTHERSILL, H. J., and his daughter.—Pointe de la Glière, Grand Cassé, Aig. de la Vanoise (traverse from E. to W.), Pointe de l'Echelle (attempt—bad weather), Col du Souffre, Aig. de Pécelet by E.N.E. buttress traverse S. to summit, then Aig. de Polset and Dôme de Polset, descending latter by E. arête below Col de Chavière, Dôme de Chasse-forêt and Dôme de l'Arpont, Mont Blanc (Midi route, descent *via* Grands Mulets), Col du Géant, Dent du Géant (Guides Henri and Emile Rey), Traverse Aig. de la Brenva *via* Glaciers de Toule and d'Entrèves, ascending by N.W. route, descending by S.W. arête to Glacier de la Brenva (Guide Bron-Courmayeur.)
- MUMM, A. L.—Piz Medel, Zapportgrat (in a blizzard), Piz Albriz, Diavolezza (also in 1874), Piz Languard (also in 1874), Zwei Schwestern, Riffelhorn (by the skyline), Mettelhorn.
- MURRAY, A. E.—Dent de Morcles, Diablerets (traverse), Wellenkuppe, Matterhorn (ascent Z'Mutt arête, descent E. face), Riffelhorn (down by lake route).
- NEWTON, H. E.—Albaron, Ciamarella, Col de Caron, Col de Lauzon, Grivola by P. Nera Col and S.E. face, Herbetet from S. Col, started to traverse Gd. Paradis by Passo Frassy, returned and descended left moraine of Dzasset Gl. to lower Tribul. Gl. weather broke, so crossed N. Col Herbetet to Pont, Col de Galise (in snowstorm), Col Est du Dard (in snow), Dôme de Chasseforêt (in fog and snow), Aig de la Glière.
- O'BRIEN, E.—Nadelhorn, Mischabeljoch (from Saas-Fee, much new snow), Riffelhorn couloir, Trifhorn from Triftjoch (Guides Ambros Supersaxo and Matthias Baumann—Saas-Fee).
- O'MALLEY, B. F. K.—Col du Carro, Grivola, Herbetet, Col de la Galise, Dôme de Chasseforêt, Aig. de la Glière, Rocher de Franchet, Mt. Clapier, Cima dei Gelas, Punta d'Argentiera, Monte Matto.
- PEARCE, S. L.—Wetterhorn, Pigne d'Arolla (traverse), Pte. Dent de Veisivi, very bad weather.
- PICKARD, R.—Cima Tosa, Bocca di Brenta, Adamello, Passo Presena.

- PIGOU, A. C.—Wilde Frau, Gspaltenhorn, Finsteraarhorn, Wellenkuppe, Grands Charmoz (traverse). All with H. C. A. Gaunt. With J. H. Clapham and B. L. Hallward: Arêtes de Vanoise (traverse), Col de la Grand Casse, Col du Palet. With B. L. Hallward: Tsanteleina (traverse), Bec de L'Invergnan (ascent by E. ridge, descent by N. ridge, E. ridge *looks* very fine, but *is* mostly rotten, one very unpleasant passage on a steep and very rotten wall).
- REED, J. T.—La Roussette (traverse, alone), Dent Perroc, Aig. de la Za (by face), Rothhorn, Grépon (traverse—on the descent a preceding party of three Italians, guideless, fell about 200 m. to the Upper Nantillons Glacier, with only minor injuries in the case of two of them. The third was more seriously injured.)
- ROBERTS, E. E.—Gross Rinderhorn, Balmhorn and Altels, Lötschenlücke, Hinter Fiescherhorn (S. peak) (snow terribly soft even before dawn), Grüneckhorn (traverse from Grüneck Pass) and Gross Grünhorn (return by same route). Burstspitze, Tellispitze, (traverse from N.)
- RUNGE, A. J. R.—Frilijoch, Augstbord Pass, Fletschhorn, Weissmies, Trifthorn, Lo Besso. Guides Ad. Müller (with Xaver Lochmatter for Trifthorn and Lo Besso).
- RUNGE, H.—Fletschhorn, Weissmies, Biesjoch (*via* Freiwänge), Brunnegghorn and traverse Bieshorn and *via* Col de Tracuit to Zinal, Pigne d'Arolla (traverse), Mont Brûlé, Grande Dent de Veisivi and traverse Petite Dent. Guides Abr. and Ad. Müller (Johann Perren and Abr. Müller for Brunegg-Bieshorn).
- SEDGWICK, H. J.—From July 19, for four weeks, bad weather with only occasional good days, made climbing difficult. Pigne de l'Allée (by N. ridge), Lo Besso (by S.W. arête, descent by E. arête), Trifthorn, Grand Cornier, Triftjoch, Hohberghorn, Matterhorn (traverse by E. face and Italian face). Guides Benoît and Henry Theytaz of Zinal. For Weisshorn, Guide Joseph M. Kronig.
- SLATER, E. V.—Palü (traverse), Languard Pass and Piz Albris, Piz Kesch, Piz Julier, Punta Fiorelli, Piz Cengalo.
- Solly, G. A.—Portjengrat (traverse), Hinter Allalingrat, Rossbodenjoch, Hohstock arête, Nesthorn.
- STOEHR, C. F.—Gross Fillarhorn, Castor and Pollux (traverse), Breithorn, Hockenhorn (traverse), Lötschen Pass, Berglistock, Wetterhorn, Schreckhorn, Monte Rosa, Dom, Wetterlücke.
- STRUTT, E. L.—Passo di Gavia, Königsspitze (S.E. face), Pizzo Tresero-Punta San Matteo, Cima di Piazzzi (N. face), Monte Pasquale-Cevedale, Hochjoch-Zebru-Ortler (N.E. slope of Hochjoch is now very dangerous—attained in four hours), Piz Badile, N. Passo di Porcelizzo-Forcola della Punta-Cima Sant' Anna, Passo di Remoluzza-Monte Disgrazia (by S.E. and S.W. arêtes), Zocca Pass-Punta Pioda di Sciora, Colle del Castello (very bad weather), Las Sours, Piz Kesch (very bad weather),

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- Piz Albris, Diavolezza Pass. September: Chamois stalking in Zemmgrund, Floite, Gunkel, Zamsgrund. Expeditions in July, all with P. Blanc. July fine, August and September lamentable.
- THOMAS, E.—1923: Bietschhorn, Lötschenlücke, Jungfrau-Mönch-Gross Fiescherhorn, Finsteraarhorn-Finsteraarothhorn-Oberaarhorn, Aig. de l'M-Petits Charmoz, Dent du Géant, Dent du Requin, Grands Charmoz-Grépon-Aig. de Blaitière, Grand Dru-Petit Dru, Zinal Rothhorn, Dent Blanche (by Viereselsgrat), Matterhorn (by Z'Mutt arête), Südlenspitze-Nadelhorn-Ulrichshorn. 1924: Aig. and Col des Gr. Montets, Aig. du Char-donnet, Aig. d'Argentièr, Aig. du Plan, Aig. de Rochefort and Mont Mallet, Aig. du Midi, Mont Blanc du Tacul-Mont Maudit-Mont Blanc-Dôme du Goûter-Aig. du Goûter (intensely cold), Aig. du Tacul, Wellenkuppe and Gensdarme of Gabelhorn, Allalinhorn and Alphubel, Rimpfischhorn, Dufourspitze-Grenz-Zumsteinspitze-Signalkuppe, Parrotspitze-Ludwigshöhe-Schwarzhorn-Vincent Pyramide, Lyskamm-Castor-Pollux-Breithorn.
- TRAVERS-JACKSON, G. F.—Röthhorn-Similhorn, Wetterhorn, Jungfrau, Schreckhorn, Rheinwaldhorn-Guferhorn, Pizzo di Stabbio-Zapporthorn-Poncione della Frecione, Vogelberg-Pizzo Cham-arino-Rheinquellhorn, Schwarzstöckli, Kl. Windgälle, Moostock, Lochberg, Gletschhorn (S. ridge), Nordend, Castor (N.E. ridge).
- TROMP, C.—Pigne d'Arolla, Dent d'Hérens (traverse up E. ridge, down S.W. ridge), Punta Giordani (in snow and thunderstorm, an abnormal break of weather started that day!), Lysjoch (two ft. of fresh snow). Guide, Christen Kaufmann, Grindelwald.
- TYNDALE, H. E. G.—1923: Col de Chécouri, Tête de l'Arp Vieille, Col du Géant, Mont Blanc (traverse from Dôme hut), Col du Géant. 1924: Anengrat (traverse), three expeditions to Petersgrat snowfields, Petersgrat.
- VISSER, Ph. C.—Riffelhorn, Wasenhorn, Stellhorn, Brandijoch, Furggjoch, Fillarhorn, Cima Brioschi, Stockhorn, Les Droites.
- WALKER, J. O.—Wildhorn (ski), Col d'Arnès and Bessanese, Ouille Monta, Albaron, Punta Mezzenile (Mulinet), Ciamarella, Colle Perduto, Western Levanna, Monte Viso.
- WHEELER, E. O.—1920: Canadian Rockies—three weeks in Fortress Lake (Yellowhead Pass) district, with four or five small climbs (unnamed) with A. O. Wheeler's survey party. With the Alpine Club of Canada: Mt. Assiniboine, Mt. Sturdee, Mt. Magog. Traverse of Terrapin and Magog *via* the 'Golden Stairs' and N.E. ridge of latter, Mt. Rundle by N.W. ridge. 1921: Mt. Everest Expedition.
- WILSON, C.—Dr. C. Wilson and Mr. H. F. Montagnier slept out in August on seven different occasions. On three only of the following days did the weather permit of a start being made, and only one of these three days was fine. Two points of the

Dent du Midi were ascended (the Haute Cime and the Cime de l'Est) and the Petite Dent de Morcles was traversed—a fine rock climb.

WYBERGH, C. H.—Aig. de Polset, Grande Casse, Cols Vanoise-de la Leisse de Fresne, Col des Vaches, Col du Carro, Mont Pourri (owing to bad weather as far as the Col or Brèche Puiseux only at foot of rocks.)

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The Alpine Club and
their friends ☞ ☞ ☞

The Alpine Club,

23, Savile Row,
London, W.1



December 1st to 30th, 1924

from 10 a.m. to 6 p.m.

32, Queen Anne Street, W.I.

November 22nd 1924.



My dear General Bruce,

You have had the courtesy to ask me for an expression of my feelings with regard to the Exhibition of old Swiss prints about to be held at the Galleries of your Club during the last month of this year. I have been fortunate enough to see most of the subjects to be exhibited prior to the official opening and it is but natural that I, as well as each and all of my fellow-countrymen, will view with gratification and pleasure an Exhibition of this nature, collated as it is with so much taste, so keen a sense of art and evincing such affection for the spirit of the Alps.

Among the many points of contact so happily existing between your countrymen and mine, love for our mountains and the passion for alpine sports in all their various forms are a binding tie, the value of which, purely from its human side, predominates to my mind, over all other. Thus, I am tempted to single out, for myself personally, the expression given to this bond of common feeling between Swiss and British, on so happy a ground, as the prime factor of your Exhibition, though the indisputable artistic quality of its special and unique contents will equally attract well-merited attention.

You have my sincerest wishes for its unqualified success.

Believe me, *my dear General Bruce,*

Yours sincerely
C. P. Ransing

Brig. General

The Hon. C.G. BRUCE, C.B., M.V.O.,

President of The Alpine Club,

etc. etc. etc.

Introduction.



THE last Alpine Print Exhibition held by the Club was in December, 1909. Since then there has been a very considerable increase in interest in these beautiful works of art, especially abroad, and particularly in Switzerland.

The Committee, therefore, decided to hold another exhibition this December, and thanks to the generosity of the Curator of Prints at the Technical School in Zurich (whose fine collections are so well known and who is so ready to extend the courtesy of allowing anyone interested in the subject to see his beautiful prints), Her Excellency Madame Paravicini, and to the various members of the Club who possess these interesting records of the Switzerland of 100 to 150 years ago, the present collection has been brought together.

The idea of the Exhibition has been to confine the prints shown to those roughly between 1770 and 1820, and to exhibit Swiss Aquatints only. At a future date we may show original drawings by the men who made the pictures and often engraved and coloured them themselves.

The exhibits have all been carefully selected with a view to illustrating a few examples of the best work of the Artists and Aquatintists of the period rather than a large general collection.

Examples are shown of the work of S. Freudenberger (or Freudenberg) (1745-1801), whose work is regarded as of exceptional quality and interest. He, like many of his brother-artists, had the advantage of studying in the best French studios in Paris, and only returned to his own country owing to the French Revolution. He himself was particularly influenced by the art of Boucher, Greuze, Lawreince, and Moreau le jeune. His subjects relate,

as a rule, to the intimate scenes of family life and show the methods and customs of an age that has long passed away, although even to-day the conservative Swiss in his daily life has many things in common with this period.

Examples are shown of F. N. Koenig's (1765-1832) finest work, which rivals Freudenberg's in its attractiveness and in its scenes of family life. He was also a great reproducer of costumes, such as the "Grand Koenig," which are particularly interesting examples of soft ground etchings. His landscapes are also much sought after.

The two Lorys—father and son (1763-1840 and 1784-1846)—are well represented on our walls, and anyone interested in their work and history is recommended to read "Les Lory" by Conrad de Mandach—a delightful book.

J. J. Bidermann (1763-1830) is well represented by part of his magnificent series of the "Grand Bidermann," the quality of which speaks for itself. He was fortunate in the men who reproduced his drawings in aquatint, as many were done by G. Lory père.

Chr. de Mechel (1737-1817) is represented by the well-known prints of H. B. de Saussure's ascent and descent of Mont Blanc, and the Club is fortunate in being able to show a copy of the rare suppressed first plate showing de Saussure sitting on the steep snow preparing to slide over a crevasse. The story goes that when a few copies had been struck the family* objected to what it considered the undignified attitude in which he was descending, so it was changed to the well-known print with de Saussure standing up.

The Exhibits include examples of fine works by Daniel Lafond (1763-1831), G. Locher (1730-1795), M. Pfeninger (1739-1812), F. Hegi (1774-1850), J. A. Linck (1766-1843), H. Rieter (1751-1818). The magnificent work of Pierre L'Joyeux and L. Wexelberg (1749-1818) deserves particular attention.

* or de Saussure himself.

A fine series of the renowned Bernese architect Nicholas Sprunglin's (1725-1802) works are on the walls and justify special attention, not only for their artistic, but also for their architectural excellence.

Costumes are represented by the work of J. Reinhard (1749-1824) (engraved it is said by F. Hegi, 1774-1850), M. Woher (1758-1830), F. N. Koenig (1765-1832), and others, and are well worth attention.

We have left to the last the few remarks which we are able to make in the restricted space at our disposal regarding the works of L. Aberli (1723-1786), whose lovely drawings of the scenery of his native country, generally engraved by himself, are so well known and stand so high in the estimation of lovers of Swiss art. The delicacy of his treatment, the accuracy of his drawing and lovely colouring, raised him to the highest place in the art of his time. His few costume subjects are much sought after.

It may be of interest to call attention to the difference between the fine French Aquatint and the Swiss Aquatint. In the former all the colours are obtained from the plate, but in the latter frequently only a few colours or only the black impression is from the plate, most or all of the colour being added by hand. This explains the curious little differences one so often notices between one print and another according to the fancy of the colourist.

It is impossible to give a more detailed introduction, but we hope that this slight sketch will add to the pleasure with which the Club will regard the delightful scenes of Swiss life and views of places they know so well, now exhibited on their walls.

The Club is specially indebted to Her Excellency Madame Paravicini for her fine series of Aberli's, etc.

R. W. LLOYD.

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Piz Albris, Diavolezza Pass. September : Chamois stalking in Zemmgrund, Floite, Gunkel, Zämsgründ. Expeditions in July, all with P. Blanc. July fine, August and September lamentable.

THOMAS, E.—1923 : Bietschhorn, Lötschenlücke, Jungfrau-Mönch-Gross Fiescherhorn, Finsteraarhorn-Finsteraarothorn-Oberaarhorn, Aig. de l'M-Petits Charmoz, Dent du Géant, Dent du Requin, Grands Charmoz-Grépon-Aig. de Blaitière, Grand Dru-Petit Dru, Zinal Rothhorn, Dent Blanche (by Viereselsgrat), Matterhorn (by Z'Mutt arête), Südlenspitze-Nadelhorn-Ulrichshorn. 1924 : Aig. and Col des Gr. Montets, Aig. du Char-donnet, Aig. d'Argentière, Aig. du Plan, Aig. de Rochefort and Mont Mallet, Aig. du Midi, Mont Blanc du Tacul-Mont Maudit-Mont Blanc-Dôme du Goûter-Aig. du Goûter (intensely cold), Aig. du Tacul, Wellenkuppe and Gensdarme of Gabelhorn, Allalinhorn and Alphubel, Rimpfischhorn, Dufourspitze-Grenz-Zumsteinspitze-Signalkuppe, Parrotspitze-Ludwigshöhe-Schwarzhorn-Vincent Pyramide, Lyskamm-Castor-Pollux-Breithorn.

TRAVERS-JACKSON, G. F.—Röthhorn-Similhorn, Wetterhorn, Jungfrau, Schreckhorn, Rheinwaldhorn-Guferhorn, Pizzo di Stabbio-Zapporthorn-Poncione della Frecione, Vogelberg-Pizzo Cham-arino-Rheinquellhorn, Schwarzstöckli, Kl. Windgälle, Moostock, Lochberg, Gletschhorn (S. ridge), Nordend, Castor (N.E. ridge).

TROMP, C.—Pigne d'Arolla, Dent d'Hérens (traverse up E. ridge, down S.W. ridge), Punta Giordani (in snow and thunderstorm, an abnormal break of weather started that day!), Lysjoch (two ft. of fresh snow). Guide, Christen Kaufmann, Grindelwald.

TYNDALE, H. E. G.—1923 : Col de Chécouri, Tête de l'Arp Vieille, Col du Géant, Mont Blanc (traverse from Dôme hut), Col du Géant. 1924 : Anengrat (traverse), three expeditions to Petersgrat snowfields, Petersgrat.

VISSER, Ph. C.—Riffelhorn, Wasenhorn, Stellihorn, Brandjijoch, Furggjoch, Fillarhorn, Cima Briosci, Stockhorn, Les Droites.

WALKER, J. O.—Wildhorn (ski), Col d'Arnès and Bessanese, Ouille Monta, Albaron, Punta Mezenile (Mulinet), Ciamarella, Colle Perduto, Western Levanna, Monte Viso.

WHEELER, E. O.—1920 : Canadian Rockies—three weeks in Fortress Lake (Yellowhead Pass) district, with four or five small climbs (unnamed) with A. O. Wheeler's survey party. With the Alpine Club of Canada : Mt. Assiniboine, Mt. Sturdee, Mt. Magog. Traverse of Terrapin and Magog *via* the 'Golden Stairs' and N.E. ridge of latter, Mt. Rundle by N.W. ridge. 1921 : Mt. Everest Expedition.

WILSON, C.—Dr. C. Wilson and Mr. H. F. Montagnier slept out in August on seven different occasions. On three only of the following days did the weather permit of a start being made, and only one of these three days was fine. Two points of the

Dent du Midi were ascended (the Haute Cime and the Cime de l'Est) and the Petite Dent de Morcles was traversed—a fine rock climb.

WYBERGH, C. H.—Aig. de Polset, Grande Cassc, Cols Vanoise-de la Leisse de Fresne, Col des Vaches, Col du Carro, Mont Pourri (owing to bad weather as far as the Col or Brèche Puiseux only at foot of rocks.)

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RECORD OF EXPEDITIONS IN 1924 WITH PREVIOUS OMISSIONS.

(Issued in terms of the recommendation of the Committee, *Alpine Journal*, vol. xxiv. p. 517, 'So as to facilitate the exchange of information.)

- BEAUMAN, E. B.—Wildhorn, Wildstrubel (skis), Birrehorn (by the rocks), Sonneggrat, Jägigrat, Schwarzmies (traverse of whole arête), Rimpfischhorn (from Adler down N. arête), Weissmies, Nadelhorn.
- BLANCHET, E. R.—Pointe Beaumont (near Finhaut), Aiguille de l'M, Pointe Albert, Petits Charmoz, Aig. de la Persévérance, Aig. Verte-Grande Rocheuse-Aig. du Jardin, les Droites, Pointe Dufour-Grenzgipfel-Zumsteinspitze-Punta Gnifetti, Lyskamm, Col de Valpelline, Egginergrat, Weissmies, Laquinhorn, Jägihorn (by S. rib—three times), Point 3106—Cima di Cingino, Stellihorn-Stelli, Point 3059—Punta Giapin, Punta Laugera (3007 m.—Cresta della Lonze)—the *whole* ridge probably new, Bieshorn (from Biesjoch), Untergabelhorn, Castor and Pollux, Dent d'Hérens, Bieshorn (first ascent by N.E. face of Pointe Burnaby).
- BONACOSSA, A.—Monte Leone (first ski traverse—up from Ospice down Alpien Glacier, Weissmies (ski), Zwischbergen Pass (first ski traverse to Gondo), Badile Camuno, Pizzo la Scheggia (first ascent up N. wall), Colle Alessandra, Cima di Castello (from Colle Lurani, mostly over S.E. arête—variation), Auta del Vallonasso (first over N.W. arête), Oronaye (first over W.N.W. arête and first over S.E. arête), Guglie d'Enchiause II and III (first ascent), Tête de l'Homme, Aig. de Chambeyron (N.W. arête), Punta Grohmann, Punta Cinque Dita (W. arête traverse), Monte Sautron (S.E. wall—probably new), Pizzo Cornera (first S.E. wall), Rocca Blanca (first E. wall), Buc de Nubiera (first over E. wall and N.W. arête), Sasso di Conca (first over N.E. wall, descent N.W. wall—new), Cima Orientale di Lago Spalmo (first over N.E. wall, descent W.N.W. arête—new), Cima Settentrionale di Lago Spalmo (first over E. arête), Cima di Piazzi (first over S.E. wall), Corno Grande-Vetta Orientale (first over N.N.E. arête), Cima Ferrand, Monte Niblè, Rocca d'Ambin, Pizzo di Pesciora, Cima di Cantone, Colle della Bettaforca (all on ski). Except Punta Cinque Dita and Colle Bettaforca, all guideless.
- BOOTH, HENRY.—Beich Pass, Dame Alys, Aletschhorn, Fushörner (two summits nearest Bel Alp), Point 3468 (Rock peak N. of the Nesthorn), Nesthorn (ascent by N. ridge, descent by S.E.

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- ridge), Unterbächhorn, Finsteraarhorn (last three guided). With Messrs. G. C. Carlisle and E. L. Fothergill (all guided), Unter-gabelhorn, Furggrat, Wellenkuppe and Trifthorn from Triftjoch, Matterhorn (traverse Italian Ridge to Zermatt), Weisshorn. With Mr. C. H. Bosanquet: Wellenkuppe-Obergabelhorn-Arbenjoch, Bortelhorn-S.E. ridge-Mottiscia Gl.-Ritter Pass-Binn (a variant of route 106 Alpes Valaisannes, Vol. IV), Klein Schienhorn (both summits).
- BOSANQUET, C. H.**—See under Booth, Henry.
- BOWER, G. S.**—Aig. du Peigne (with R. S. T. Chorley), Aig. Ravanel (with R. S. T. Chorley and Dr. A. W. Wakefield), Doigt de Trélaporte (with R. S. T. Chorley). Alfred Couttet very kindly gave us most useful sketches of Peigne and Ravanel. Rubbers were worn. The climb once one knows it is not excessively difficult by any means.
- CANDLER, HENRY**—1920 (omitted): Albaron, Mont Aiguille. 1924: Vignemale, Brèche de Roland and Cirque de Salarous (from Gavarnie to Ordesa).
- CARR, H. R. C.**—Andermatt (winter), Piz Lucendro, Maigels Pass, Winterhorn and other minor expeditions on ski. Monte Genaro (Sabine Hills), Vesuvius, Soracte, Pointe de la Réchasse, Pointe du Dard (Massif de la Vanoise—at Easter on ski). Chamechaude, Mont Aiguille, Dôme des Petites Rousses, Col du Sabot (April and May), Meije (June 1—earliest ascent recorded in any season), Matterhorn (traverse), Lyskamm (traverse by Cresta Rey and E. ridge), Signalkuppe, Parrotspitze, Ludwigshöhe, Corno Nero, Vincent Pyramide, Castor-Pollux-Breithorn, Trifthorn (traverse Zermatt to Zinal), Schwarzhorn (Augstbord Pass), Stockhorn, Fillarhorn, Dreieckhorn. Passes: Lysjoch, Breuiljoch, and Col de Tracuit.
- CARR, R. C. C.**—1923: Buet, Col du Géant, Pte. de Planereuse, Col du Chardonnet, Pte. Dent de Vesivi (traverse), Tête Blanche, La Lnette, Col de la Dent Blanche and Col Durand, Col Théodule, Col de Val Cornera, Col Collon, Pte Vuibez. 1924: La Mouche-rotte, Chamechaude, Mont Aiguille, Petites Rousses, Brèche de la Meije, Le Moine, Dôme de Miage, Aig. de Béranger (traverse), Col de Tricot, Matterhorn (traverse from Italian side), Lysjoch, Ludwigshöhe, Signalkuppe, Lysjoch, Riffelhorn, Fillarhorn.
- CARSLAKE, W. B.**—With Oxford University Arctic Expedition in Spitsbergen and N. Eastland; in particular, sledging in N. Eastland for purpose of survey and exploration.
- CLAPHAM, J. H.**—See under Pigou, A.C.
- CLARK, A. J.**—Einser, Rotwandspitze, Gr. Zinne, Zwölfer, Elfer, Dreischusterspitze, Gr. Glockner.
- CODDINGTON, E.**—Ruinette, Tête de Millon, Plattenhörner (11,014—the N. summit 3357), Wellenkuppe.
- ELLIOTT, C. A.**—Berglistock (second peak), Wetterhorn, Schreckhorn, Wetterlücke, Monte Rosa, Dom.

- ELLWOOD, L. A. and V.—Carpathians: Porumbacul de Sus, Karl Wolff Weg, Negoi, Portita, Bergescharte, Scara, Surul, Bergescharte, Portita Pass, Vallea Caprealta, Stiol Pass, Pietrosu Ridge. Tatra Mountains: Lomnickystit (ascent Jordan route descent variation route), Jordanspitz, Schwalbeturn, Téryspitz, Eggihoferspitz, Chmielowskyspitz Fünfseenspitz, Jolandspitz, Deryspitz, Téryscharte, Polskybreben, Velickystit, Litvorovystit, Tetmajerovstit, Gerlach.
- FARRAR, J. P.—Grindelwald-Dru (attempt—gained main ridge—*this ascent ought to be repeated*), Ebnefluh-Gletscherhorn (traverse—new), Grossjoch (new), Jungfrau from Guggi (In 1883 I traversed by this route from old Guggi Hut to Eggishorn and in 1897 from Rottal Hut to Kl. Scheidegg—*its splendour is undiminishable*), Zäsenberghorn and traverse to Kalli (*recommended*), Aig. de la Persévérance (ascent S. arête, descent W.), Col de la Glière, Buet. Many mountain walks. Most unsettled season I remember.
- FIELD, A. E.—Wildhorn, Hahnenmoos, Bonderkrinde, Lötschen Pass, Mettelhorn.
- FINZI, N. S.—Sattelspitz, Kingspitz (difficult conditions), Klein and Gross Simelistock traverse (Engelhörner), Gässispitz (traverse), Triftjoch (much fresh snow), Théodule Pass, Col N. d'Herbetet, attempt on Gran Sertz foiled by weather, E. ridge of Herbetet including big gendarme, Gran Paradiso by couloir on N. face under hanging glacier, Grivola, Lyskamm traverse (much ice, no track, very cold wind), Trifhorn, Rothorngrat of Zinal Rothorn. Reached ridge direct from tributary glacier joining Trift glacier below Trifhorn. Seldom possible without danger and doubtful whether taken before. It cuts out uninteresting rotten part of ridge as one strikes the deep gap in ridge. Magnificent climb if ridge is kept to. We took all except final gendarme.
- FOTHERGILL, C. F.—Schwarzhorn via Jung and Augstbord Pass, Pointe de Zinal.
- FOTHERGILL, E. L.—See under Booth, Henry.
- FREEMAN, E.—Laquinhorn, Allalin Pass, Aletschhorn.
- GRAHAM, R.—August—Kl. Visoka, Lomnitzerspitz, Osteria, Polnischer Kamm (Tatra) (weather very unsatisfactory). December—Mont aux Sources (Drakensberg).
- HALLWARD, B. L.—See under Pigou, A. C.
- HEEMSTRA, B. T. van—Piz Corvatsch, Aig. d'Argentièrre (traverse), Grand Combin.
- JACKSON, W. S.—1914: Untergabelhorn (traverse), Furggengrat, Lyskamm, Riffelhorn (from the glacier). 1915: Pichincha (alone), Ataccatzo (alone), Corazon to the shoulder (did not like the look of the rest alone).
- JOSELAND, H. L.—Lötschen Pass, Roussette, Petite Dent de Veisivi (traverse twice), Pigne d'Arolla.

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- LING, W. N.—Titlis, Gwärtler, Tannenband, Ammertén Pass, Thierhörnli, Rothe Kümme, Laquinhorn, Fletschhorn, Adler Pass and Stralhorn, Monte Rosa to Sattel (snowstorm).
- LONGSTAFF, T. G.—Buet, Tour Noire (severe conditions).
- MONRO, C. G.—Grande Aig. Rousse, W. Levanna, E. Levanna (traverse), Aig. Pers, Grand Paradis, Tresenta (traverse), Ciarforon (traverse), Bec du Chardoney, Aig. de Crête Sèche (traverse), Mont Gelé, Bec de Lusene, Dent Parrachée, Pointe de l'Echelle, Aig. de Polset (traverse), Aig. de Pécelet (traverse), Aig. Doran (traverse) (the weather conditions are responsible for much).
- MONTAGNIER, H. F.—Pierre Cabotz, Dent du Midi (Haute Cime) Cime de l'Est (twice), Petite Dent de Morcles (twice).
- MOTHERSILL, H. J., and his daughter.—Pointe de la Glière, Grand Casse, Aig. de la Vanoise (traverse from E. to W.), Pointe de l'Echelle (attempt—bad weather), Col du Soufre, Aig. de Pécelet by E.N.E. buttress traverse S. to summit, then Aig. de Polset and Dôme de Polset, descending latter by E. arête below Col de Chavière, Dôme de Chasse-forêt and Dôme de l'Arpont, Mont Blanc (Midi route, descent *via* Grands Mulets), Col du Géant, Dent du Géant (Guides Henri and Emile Rey), Traverse Aig. de la Brenva *via* Glaciers de Toule and d'Entrèves, ascending by N.W. route, descending by S.W. arête to Glacier de la Brenva (Guide Bron-Courmayeur.)
- MUMM, A. L.—Piz Medel, Zapportgrat (in a blizzard), Piz Albriz, Diavolezza (also in 1874), Piz Languard (also in 1874), Zwei Schwestern, Riffelhorn (by the skyline), Mettelhorn.
- MURRAY, A. E.—Dent de Morcles, Diablerets (traverse), Wellenkuppe, Matterhorn (ascent Z'Mutt arête, descent E. face), Riffelhorn (down by lake route).
- NEWTON, H. E.—Albaron, Ciamarella, Col de Caron, Col de Lauzon, Grivola by P. Nera Col and S.E. face, Herbetet from S. Col, started to traverse Gd. Paradis by Passo Frassy, returned and descended left moraine of Dzasset Gl. to lower Tribul. Gl. weather broke, so crossed N. Col Herbetet to Pont, Col de Galise (in snowstorm), Col Est du Dard (in snow), Dôme de Chasseforêt (in fog and snow), Aig. de la Glière.
- O'BRIEN, E.—Nadelhorn, Mischabeljoch (from Saas-Fee, much new snow), Riffelhorn couloir, Trifhorn from Triftjoch (Guides Ambros Supersaxo and Matthias Baumann—Saas-Fee).
- O'MALLEY, B. F. K.—Col du Carro, Grivola, Herbetet, Col de la Galise, Dôme de Chasseforêt, Aig. de la Glière, Rocher de Franchet, Mt. Clapier, Cima dei Gelas, Punta d'Argentiera, Monte Matto.
- PEARCE, S. L.—Wetterhorn, Pigne d'Arolla (traverse), Pte. Dent de Veisivi, very bad weather.
- PICKARD, R.—Cima Tosa, Bocca di Brenta, Adamello, Passo Presena.

- PIGOU, A. C.—Wilde Frau, Gspaltenhorn, Finsteraarhorn, Wellenkuppe, Grands Charmoz (traverse). All with H. C. A. Gaunt. With J. H. Clapham and B. L. Hallward : Arêtes de Vanoise (traverse), Col de la Grand Casse, Col du Palet. With B. L. Hallward : Tsanteleina (traverse), Bec de L'Invergnan (ascent by E. ridge, descent by N. ridge, E. ridge *looks* very fine, but *is* mostly rotten, one very unpleasant passage on a steep and very rotten wall).
- REED, J. T.—La Roussette (traverse, alone), Dent Perroc, Aig. de la Za (by face), Rothhorn, Grépon (traverse—on the descent a preceding party of three Italians, guideless, fell about 200 m. to the Upper Nantillons Glacier, with only minor injuries in the case of two of them. The third was more seriously injured.)
- ROBERTS, E. E.—Gross Rinderhorn, Balmhorn and Altels, Lötschenlücke, Hinter Fiescherhorn (S. peak) (snow terribly soft even before dawn), Grüneckhorn (traverse from Grüneck Pass) and Gross Grünhorn (return by same route). Burstspitze, Tellispitze, (traverse from N.)
- RUNGE, A. J. R.—Frilijoch, Augstbord Pass, Fletschhorn, Weissmies, Trifthorn, Lo Besso. Guides Ad. Müller (with Xaver Lochmatter for Trifthorn and Lo Besso).
- RUNGE, H.—Fletschhorn, Weissmies, Biesjoch (*via* Freiwänge), Brunnegghorn and traverse Bieshorn and *via* Col de Tracuit to Zinal, Pigne d'Arolla (traverse), Mont Brûlé, Grande Dent de Veisivi and traverse Petite Dent. Guides Abr. and Ad. Müller (Johann Perren and Abr. Müller for Brunegg-Bieshorn).
- SEDGWICK, H. J.—From July 19, for four weeks, bad weather with only occasional good days, made climbing difficult. Pigne de l'Allée (by N. ridge), Lo Besso (by S.W. arête, descent by E. arête), Trifthorn, Grand Cornier, Triftjoch, Hohberghorn, Matterhorn (traverse by E. face and Italian face). Guides Benoît and Henry Theytaz of Zinal. For Weisshorn, Guide Joseph M. Kronig.
- SLATER, E. V.—Palü (traverse), Languard Pass and Piz Albris, Piz Kesch, Piz Julier, Punta Fiorelli, Piz Cengalo.
- Solly, G. A.—Portjengrat (traverse), Hinter Allalingsrat, Rossbodenjoch, Hohstock arête, Nesthorn.
- STOEHR, C. F.—Gross Fillarhorn, Castor and Pollux (traverse), Breithorn, Hockenhorn (traverse), Lötschen Pass, Berglistock, Wetterhorn, Schreckhorn, Monte Rosa, Dom, Wetterlücke.
- STRUTT, E. L.—Passo di Gavia, Königsspitze (S.E. face), Pizzo Tresero-Punta San Matteo, Cima di Piazzzi (N. face), Monte Pasquale-Cevedale, Hochjoch-Zebru-Ortler (N.E. slope of Hochjoch is now very dangerous—attained in four hours), Piz Badile, N. Passo di Porcelizzo-Forcola della Punta-Cima Sant' Anna, Passo di Remoluzza-Monte Disgrazia (by S.E. and S.W. arêtes), Zocca Pass-Punta Pioda di Sciora, Colle del Castello (very bad weather), Las Sours, Piz Kesch (very bad weather),

6 *Record of Expeditions in 1924 with Previous Omissions.*

Piz Albris, Diavolezza Pass. September : Chamois stalking in Zemmgrund, Floite, Gunkel, Zamsgrund. Expeditions in July, all with P. Blanc. July fine, August and September lamentable.

THOMAS, E.—1923 : Bietschhorn, Lötschenlücke, Jungfrau-Mönch-Gross Fiescherhorn, Finsteraarhorn-Finsteraarrothhorn-Oberaarhorn, Aig. de l'M-Petits Charmoz, Dent du Géant, Dent du Requin, Grands Charmoz-Grépon-Aig. de Blaitière, Grand Dru-Petit Dru, Zinal Rothhorn, Dent Blanche (by Viereselsgrat), Matterhorn (by Z'Mutt arête), Südlenspitze-Nadelhorn-Ulrichshorn. 1924 : Aig. and Col des Gr. Montets, Aig. du Char-donnet, Aig. d'Argentière, Aig. du Plan, Aig. de Rochefort and Mont Mallet, Aig. du Midi, Mont Blanc du Tacul-Mont Maudit-Mont Blanc-Dôme du Goûter-Aig. du Goûter (intensely cold), Aig. du Tacul, Wellenkuppe and Gensdarme of Gabelhorn, Allalinhorn and Alphubel, Rimpfischhorn, Dufourspitze-Grenz-Zumsteinspitze-Signalkuppe, Parrotspitze-Ludwigshöhe-Schwarzhorn-Vincent Pyramide, Lyskamm-Castor-Pollux-Breithorn.

TRAVERS-JACKSON, G. F.—Röthhorn-Similihorn, Wetterhorn, Jungfrau, Schreckhorn, Rheinwaldhorn-Guferhorn, Pizzo di Stabbio-Zapporthorn-Poncione della Frecione, Vogelberg-Pizzo Cham-arino-Rheinquellhorn, Schwarzstöckli, Kl. Windgälle, Moostock, Lochberg, Gletschhorn (S. ridge), Nordend, Castor (N.E. ridge).

TROMP, C.—Pigne d'Arolla, Dent d'Hérens (traverse up E. ridge, down S.W. ridge), Punta Giordani (in snow and thunderstorm, an abnormal break of weather started that day!), Lysjoch (two ft. of fresh snow). Guide, Christen Kaufmann, Grindelwald.

TYNDALE, H. E. G.—1923 : Col de Chécouri, Tête de l'Arp Vieille, Col du Géant, Mont Blanc (traverse from Dôme hut), Col du Géant. 1924 : Anengrat (traverse), three expeditions to Petersgrat snowfields, Petersgrat.

VISSER, Ph. C.—Riffelhorn, Wasenhorn, Stellhorn, Brandjijoch, Furggjoch, Fillarhorn, Cima Brioschi, Stockhorn, Les Droites.

WALKER, J. O.—Wildhorn (ski), Col d'Arnès and Bessanese, Ouille Monta, Albaron, Punta Mezenile (Mulinet), Ciamarella, Colle Perduto, Western Levanna, Monte Viso.

WHEELER, E. O.—1920 : Canandian Rockies—three weeks in Fortress Lake (Yellowhead Pass) district, with four or five small climbs (unnamed) with A. O. Wheeler's survey party. With the Alpine Club of Canada : Mt. Assiniboine, Mt. Sturdee, Mt. Magog. Traverse of Terrapin and Magog *via* the 'Golden Stairs' and N.E. ridge of latter, Mt. Rundle by N.W. ridge. 1921 : Mt. Everest Expedition.

WILSON, C.—Dr. C. Wilson and Mr. H. F. Montagnier slept out in August on seven different occasions. On three only of the following days did the weather permit of a start being made, and only one of these three days was fine. Two points of the

Dent du Midi were ascended (the Haute Cime and the Cime de l'Est) and the Petite Dent de Morcles was traversed—a fine rock climb.

WYBERGH, C. H.—Aig. de Polset, Grande Casse, Cols Vanoise-de la Leisse de Fresne, Col des Vaches, Col du Carro, Mont Pourri (owing to bad weather as far as the Col or Brèche Puiseux only at foot of rocks.)

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E XHIBITION of ☞ ☞
Swiss Coloured Prints
lent by Members of
The Alpine Club and
their friends ☞ ☞ ☞

The Alpine Club,

23, Savile Row,
London, W.1



December 1st to 30th, 1924

from 10 a.m. to 6 p.m.

32, Queen Anne Street, W.I.

November 22nd 1924.



My dear General Bruce,

You have had the courtesy to ask me for an expression of my feelings with regard to the Exhibition of old Swiss prints about to be held at the Galleries of your Club during the last month of this year. I have been fortunate enough to see most of the subjects to be exhibited prior to the official opening and it is but natural that I, as well as each and all of my fellow-countrymen, will view with gratification and pleasure an Exhibition of this nature, collated as it is with so much taste, so keen a sense of art and evincing such affection for the spirit of the Alps.

Among the many points of contact so happily existing between your countrymen and mine, love for our mountains and the passion for alpine sports in all their various forms are a binding tie, the value of which, purely from its human side, predominates to my mind, over all other. Thus, I am tempted to single out, for myself personally, the expression given to this bond of common feeling between Swiss and British, on so happy a ground, as the prime factor of your Exhibition, though the indisputable artistic quality of its special and unique contents will equally attract well-merited attention.

You have my sincerest wishes for its unqualified success.

Believe me, *my dear General Bruce,*

Yours sincerely

C. H. Pannier

Brig. General

The Hon. C.G. BRUCE, C.B., M.V.O.,

President of The Alpine Club,

etc. etc. etc.

Introduction.



THE last Alpine Print Exhibition held by the Club was in December, 1909. Since then there has been a very considerable increase in interest in these beautiful works of art, especially abroad, and particularly in Switzerland.

The Committee, therefore, decided to hold another exhibition this December, and thanks to the generosity of the Curator of Prints at the Technical School in Zurich (whose fine collections are so well known and who is so ready to extend the courtesy of allowing anyone interested in the subject to see his beautiful prints), Her Excellency Madame Paravicini, and to the various members of the Club who possess these interesting records of the Switzerland of 100 to 150 years ago, the present collection has been brought together.

The idea of the Exhibition has been to confine the prints shown to those roughly between 1770 and 1820, and to exhibit Swiss Aquatints only. At a future date we may show original drawings by the men who made the pictures and often engraved and coloured them themselves.

The exhibits have all been carefully selected with a view to illustrating a few examples of the best work of the Artists and Aquatintists of the period rather than a large general collection.

Examples are shown of the work of S. Freudenberger (or Freudenberg) (1745-1801), whose work is regarded as of exceptional quality and interest. He, like many of his brother-artists, had the advantage of studying in the best French studios in Paris, and only returned to his own country owing to the French Revolution. He himself was particularly influenced by the art of Boucher, Greuze, Lawreince, and Moreau le jeune. His subjects relate,

as a rule, to the intimate scenes of family life and show the methods and customs of an age that has long passed away, although even to-day the conservative Swiss in his daily life has many things in common with this period.

Examples are shown of F. N. Koenig's (1765-1832) finest work, which rivals Freudenberg's in its attractiveness and in its scenes of family life. He was also a great reproducer of costumes, such as the "Grand Koenig," which are particularly interesting examples of soft ground etchings. His landscapes are also much sought after.

The two Lorys—father and son (1763-1840 and 1784-1846)—are well represented on our walls, and anyone interested in their work and history is recommended to read "Les Lory" by Conrad de Mandach—a delightful book.

J. J. Bidermann (1763-1830) is well represented by part of his magnificent series of the "Grand Bidermann," the quality of which speaks for itself. He was fortunate in the men who reproduced his drawings in aquatint, as many were done by G. Lory père.

Chr. de Mechel (1737-1817) is represented by the well-known prints of H. B. de Saussure's ascent and descent of Mont Blanc, and the Club is fortunate in being able to show a copy of the rare suppressed first plate showing de Saussure sitting on the steep snow preparing to slide over a crevasse. The story goes that when a few copies had been struck the family* objected to what it considered the undignified attitude in which he was descending, so it was changed to the well-known print with de Saussure standing up.

The Exhibits include examples of fine works by Daniel Lafond (1763-1831), G. Locher (1730-1795), M. Pfeninger (1739-1812), F. Hegi (1774-1850), J. A. Linck (1766-1843), H. Rieter (1751-1818). The magnificent work of Pierre L'Joyeux and L. Wexelberg (1749-1818) deserves particular attention.

* or de Saussure himself.

A fine series of the renowned Bernese architect Nicholas Sprunglin's (1725-1802) works are on the walls and justify special attention, not only for their artistic, but also for their architectural excellence.

Costumes are represented by the work of J. Reinhard (1749-1824) (engraved it is said by F. Hegi, 1774-1850), M. Woher (1758-1830), F. N. Koenig (1765-1832), and others, and are well worth attention.

We have left to the last the few remarks which we are able to make in the restricted space at our disposal regarding the works of L. Aberli (1723-1786), whose lovely drawings of the scenery of his native country, generally engraved by himself, are so well known and stand so high in the estimation of lovers of Swiss art. The delicacy of his treatment, the accuracy of his drawing and lovely colouring, raised him to the highest place in the art of his time. His few costume subjects are much sought after.

It may be of interest to call attention to the difference between the fine French Aquatint and the Swiss Aquatint. In the former all the colours are obtained from the plate, but in the latter frequently only a few colours or only the black impression is from the plate, most or all of the colour being added by hand. This explains the curious little differences one so often notices between one print and another according to the fancy of the colourist.

It is impossible to give a more detailed introduction, but we hope that this slight sketch will add to the pleasure with which the Club will regard the delightful scenes of Swiss life and views of places they know so well, now exhibited on their walls.

The Club is specially indebted to Her Excellency Madame Paravicini for her fine series of Aberli's, etc.

R. W. LLOYD.

Special Note.

As we go to press, we are greatly indebted to His Exc. Monsieur C. R. Paravicini, the Swiss Minister, for the following interesting information.

"Le Départ du Soldat Suisse."

"Le Retour du Soldat Suisse."

These two famous prints made by Freudenberger a few years before the end of the Ancien Régime in France represent subjects taken from the life of the sons of Swiss peasants, who during the 17th and 18th centuries, joined the Swiss regiments in foreign service. Nearly all the European armies had Swiss regiments, the commanders, officers, N.C.O.'s and men were all Swiss, sometimes with the exception of a small part of the men, who were taken from other countries. These regiments were generally considered as particularly brave and reliable. In Freudenberger's time the King of France had eleven Swiss regiments, besides the old bodyguard of the "Cent Suisses," and the "Régiment Suisse de la Garde." These regiments, denominated after their commander, were :— d'Erlach, de Boccard, de Sonnenberg, de Castella, de Waldner, d'Aulbonne, de Diesbach, de Courten, de Salis, de Lochmann, d'Eptingen. The Supreme Commander, the title was "Colonel Général des Suisses," of all the Swiss regiments in France was always a Prince of the Blood, in the last period before the Revolution, the Comte d'Artois (later Charles X).

The Freudenberger print, "Le Retour," has been published with three different colours of the soldier's coat : red with black facings, blue with red facings, yellow with red facings. The first is the coat of the Régiment d'Erlach in France, the second the one of the Swiss Guards of the Prince of the Netherlands, and the third of a regiment of which we have been unable to identify the name. The "yellow" print is exceedingly rare, while the "blue" one can occasionally be found; the one usually seen is the "red."

Catalogue.

L'orthographe des titres adoptée dans ce Catalogue est celle que portent les estampes.



1. ABERLI. Vue dessinée à Mouri, près de Berne, et gravé par J. L. Aberli avec privilège. Grand in-folio large, en couleurs, grandes marges.
Bonne épreuve, premier tirage.
2. ABERLI. Vue d'Yverdon, prise depuis Clindi. Dessiné et gravé par J. L. Aberli avec privilège. Grand in-folio large, en couleurs, grandes marges.
Superbe épreuve, premier tirage.
3. ABERLI. Vue du château de Wimmis et des environs. Dessiné et gravé par J. L. Aberli avec privilège. Grand in-folio large, en couleurs, grandes marges.
Très belle épreuve, premier tirage.
4. ABERLI. Vue de Cerlier et du Lac de Biemme. Grand in-folio large, en couleurs, grandes marges.
Superbe épreuve, premier tirage.
5. ABERLI. Vue du Village et du Lac de Brienz. Dessiné et gravé par J. L. Aberli avec privilège. In-folio large, en couleurs, grandes marges.
Superbe épreuve, premier tirage.
6. ABERLI. La ville de Berne du Côté du Nord. Dessiné et gravé par J. L. Aberli avec privilège. In-folio large, en couleurs, grandes marges.
Splendide épreuve, premier tirage.
7. ABERLI. Vue de Vevey. Dessiné et gravé par J. L. Aberli avec privilège. In-folio large, en couleurs, grandes marges.
Très belle épreuve, premier tirage.
8. ABERLI. La Vallée Oberhasli. Dessiné et gravé par J. L. Aberli avec privilège. In-folio large, en couleurs, grandes marges.
Très belle épreuve, premier tirage.
9. ABERLI. Vue de Nidau près du Lac de Biemme. Dessiné et gravé par J. L. Aberli avec privilège. In-folio large, en couleurs, très grandes marges.
Superbe épreuve, premier tirage, une des plus jolies vues d'Aberli.

10. ABERLI. Dessiné sur les remparts a Berne et gravé par J. L. Aberli avec privilège. In-folio large, en couleurs, grandes marges.

Splendide épreuve, premier tirage.

11. ABERLI. Vue de Lausanne. Dessiné par J. L. Aberli et gravé par B. A. Dunker avec privilège. In-folio large, en couleurs, grandes marges.

12. ABERLI. Vue prise du Château de Thoune. Dessiné et gravé par J. L. Aberli avec privilège. In-folio large, en couleurs, marges.

Belle épreuve, premier tirage.

13. ABERLI. Chute d'eau appelée Staubbach dans la Vallée de Lauterbrunnen. Dessiné et gravé par J. L. Aberli avec privilège. In-folio haut, en couleurs, marges.

Superbe épreuve, premier tirage.

14. ABERLI. Une partie des Glaciers du Grindelwald. Dessiné par J. L. Aberli et gravé par M. Pfeninguer avec privilège. In-folio haut, en couleurs, grandes marges.

Superbe épreuve, premier tirage.

Ces gravures sont prêtées par S. Exc. Madame Paravicini

15. ABERLI. Paysanne de l'Argöw. J. L. Aberli del. B. A. Dunker fc., In-4to haut, en couleurs, grandes marges.

Épreuve en coloris postérieur.

Paysanne de l'Argöw. J. L. Aberli del. B. A. Dunker fc.

Paysanne Servante à Berne. J. L. Aberli del. et fc. avec privilège

In-4to haut, en couleurs, grandes marges, sur une seule feuille.

Superbes épreuves.

Paysan des environs de Berne.

Paysanne des environs de Berne.

J. L. Aberli del. B. A. Dunker fc. Avec privilège. In-4to haut. Deux planches de costumes gravées et coloriées sur une seule feuille.

Superbes épreuves, de toute rareté réunies et dans cet état.]

Paysanne servante à Berne. In-8vo haut, en couleurs, grandes marges.

Très curieuse planche de costume, réduction de celle gravée par Dunker d'après Aberli.

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VUE DU JUNGFRAU HORN (PIC DE LA VIERGE)

l'ancienne Montagne neigeée de la Vallée de Lauterbrunnen au Canton de Berne, ainsi nommée des tentatives infructueuses faites jusques à présent pour parvenir à sa cime.

Cette Vue prise aux environs d'Unterseen est gravée d'après le Dessin original du célèbre J.L. Werch
 Publié par Chr: de Mehel Graveur, et se trouve chez lui à Basle.

16. ABERLI. Vue du Jungfrau - Horn (Pic de la Vierge) fameuse Montagne neigée de la Vallée de Lauterbrunnen au Canton de Berne ainsi nommé des tentatives infructueuses faites jusqu'à présent pour parvenir à sa cime. Cette vue prise aux environs d'Unterseen est gravée d'après le dessin original du célèbre J. L. Aberli. Publié par Ch. de Mechel, graveur, et se trouve chez lui à Basle. In folio haut, marges.
Superbe épreuve.
17. ABERLI. Vue prise aux environs de la Tour. Dessiné par J. L. Aberli et gravé par H. Rieter avec privilège. Grand in-folio large, en couleurs, marges.
La plus rare des vues d'Aberli, et peut-être la plus belle. Splendide épreuve.
18. BACLER d'ALBE. Vue du fameux Mont-Blanc dans le Haut Faucigny en Savoie. Peint d'après nature par A. Bacler d'Albe.
Jolie épreuve.
19. BACLER d'ALBE. Jacques Balma dit le Mont-Blanc. In-folio haut, en couleurs, grandes marges.
Superbe épreuve de ce rarissime et beau portrait en médaillon, d'une finesse admirable.
20. BIDERMANN. Vue du Bourg de Schwitz. Peint d'après nature par J. J. Bidermann avec privilège. Se trouve chez J. J. Bidermann peintre à Berne. Grand in-folio large en couleurs grandes marges.
Splendide épreuve de toute fraîcheur avec annotation manuscrite : "Colorié par l'auteur."
21. BIDERMANN. Vue du Bourg de Glaris. Peint d'après nature par J. J. Bidermann. Se trouve chez J. J. Bidermann peintre à Berne. Grand in-folio large, en couleurs, grandes marges grises originales.
Superbe épreuve de premier tirage avec l'annotation manuscrite : "Colorié par l'auteur."
22. BIDERMANN. Vue de la Ville de Lausanne. Peint d'après nature par J. J. Bidermann. A Basle chez Birmann et Huber. Grand in-folio large, en couleurs, marges grises.
Belle épreuve.
23. BIDERMANN. Vue d'Altdorf, Chef-lieu du Canton d'Uri. Peint d'après nature par J. J. Bidermann. A Basle chez Birmann et Fils. Très grand in-folio large, en couleurs, grandes marges grises.
Belle épreuve.

24. **BIDERMANN.** Vue de la Ville de Berne. Peint d'après nature par J. J. Bidermann. A Basle chez Bidermann et Huber. Grand in-folio large, en couleurs, grandes marges grises.

Très belle épreuve de cette vue animée de personnages au premier plan.

25. **BIDERMANN.** Vue de la Ville de Berne. Peint d'après nature par J. J. Bidermann avec privilège. Se trouve chez J. J. Bidermann peintre à Berne. Grand in-folio large, en couleurs, marges.

Superbe épreuve d'une fraîcheur parfaite, avec annotation manuscrite :
"Colorié par l'auteur."

26. **BIDERMANN.** Vue de la Ville de Schaffhouse. Peint d'après nature par J. J. Bidermann. A Basle chez Birmann et Huber. Grand in-folio large, en couleurs, marges grises.

Superbe épreuve.

27. **BIDERMANN.** Vue du glacier de Rosenlauri. Grand in-folio large, en couleurs, grandes marges grises.

Superbe épreuve avant toute lettre d'une parfaite fraîcheur de coloris.

28. **BIDERMANN.** Vue de Lucerne. Grand in-folio large, en couleurs, sans marges. Peint par J. J. Bidermann.

Épreuve de coloris postérieur.

Toute ces gravures sont de la série des "Grands Bidermann."

29. **BIDERMANN.** Vue du Bourg de Glaris. In-folio large, en couleurs, sans marges, montée à l'époque sur papier gris avec titre manuscrit.

Très belle épreuve du "Moyen Bidermann."

30. **BIDERMANN.** Vue de Sarnen, chef-lieu du Canton d'Unterwalden, dessus le Bois. In-folio large, en couleurs, sans marges. Montée à l'époque sur papier gris avec titre manuscrit.

Belle épreuve du "Moyen Bidermann."

31. **BIDERMANN.** Vue de la Ville de Winterthur. Très grand in-folio large, en couleurs, marges. Portant au crayon l'inscription "J. Biedermann del et fecit." Titre à la Plume.

Superbe épreuve de coloris magnifique.

Prêté par le Cabinet des Estampes de l'Ecole Polytechnique Fédérale à Zurich.

32. BIDERMANN. Les Offres de la Villageoise. J. Bidermann fecit. A Berne chez J. Bidermann peintre avec privilège. In-folio haut, en couleurs, marges.
Épreuve de fraîcheur absolue. Très rare.
33. BIRMANN. Vue du Lac de Lauwerz. Dessiné d'après nature et gravé par Pre. Birmann. Grand in-folio large, en couleurs, marges grises.
Vue rare en splendide épreuve de premier tirage, avant toute lettre et avec titre manuscrit.
34. BIRMANN. Les Bains de St. Gervais. S. Birmann f. In-4to large.
35. BIRMANN. Eglise de Chamounix. S. Birmann f. In-4to haut.
36. BIRMANN. La Mer de Glace vue du Montanvert. S. Birmann f. Petit in-folio large.
37. BIRMANN. Le Chamounix vue du Col de Balme. S. Birmann f.
38. BLEULER. Reichenau am Bodensee, 1800.
39. Reichenau am Bodensee, 1800. Ensemble deux pendants, in-folio large, en couleurs, sans marges, montés à l'époque sur papier fort.
Superbes épreuves de ces vues rares, animées de personnages au premier plan. Titre et signature manuscrits dans la gravure.
40. BLEULER (le père). Vue de la Chute du Rhin. Grand in-folio large en couleurs, sans marges.
La plus belle vue de ce site. Très belle épreuve, remontée sur fausses marges.
41. BLEULER. Ein Appenzeller Baur des aussern Rodens. Gravé par Lory. Se vend chez H. Bleuler. In-4to haut, en couleurs, marges.
Superbe épreuve.
42. Eine Appenzellerin des inneren Rodens. Gravé par Lory. In-4to haut, en couleurs, marges.
Superbe épreuve.
43. Ein Appenzeller Baur des inneren Roden. Gravé par Lory. In-4to haut, en couleurs, marges.
Superbe épreuve.

44. BLEULER. Vacher du Canton de Schweiz. Dessiné par C. Teiner, gravé par D. La Fond. In-4to large, en couleurs, marges.
Superbe épreuve.
45. Une Fille dans le Canton de Schweiz. Dessiné par C. Teiner, gravé par D. La Fond. Se vend chez H. Bleuler. In-4to haut, en couleurs, marges.
Superbe épreuve.
46. Païsan du Canton de Basle. Gravé par Marquardt Wocher. In-4to haut, en couleurs, marges.
Superbe épreuve. Ce costume ainsi que ceux qui suivent est de la plus grande rareté.
47. Païsane du Canton de Basle. Gravé par M. Wocher. Se vend chez Bleuler. In-4to haut, en couleurs, marges.
Superbe épreuve.
48. BOURGDORFER. Une Fille d'Enfans à Berne. Dessiné et gravé par D. Bourgdorfer. In-folio haut, en couleurs, grandes marges.
Superbe épreuve.
49. BUECHEL. Vue et Perspective de la Ville de Bâle du côté de Huningue. Em. Büchel del. et pinx., J. M. Weiss Argent. fc. 1744. Grand in-folio large, en couleurs, petites marges.
50. BUHLMANN. Vue des lacs de Thoun et de Brienz. Buhlmann pinx. Burkhardt sculp. In-4to large.
Belle épreuve.
51. CERJAT. La Balanceuse. Dessiné par Sabine Cerjat contemporaine et imitatrice de Freudenberger. In-4to haut.
Prêtée par S. Exc. Madame Paravicini.
52. DINKEL. Elisabeth Grossman, la belle batelière de Brienz. Dinkel pinxit. Rausch sculpsit. In-quarto haut, à l'ovale, en couleurs, marges grises.
Splendide épreuve, parfaite fraîcheur, avec timbre sec de l'éditeur Lamy.
53. DUNKER. Vue d'une partie de la Chûte d'eau à Douane dans le Canton de Berne.

54. DUNKER. Seconde partie de la Chûte d'eau à Douane dans le Canton de Berne. Dunker del, et sc. Ensemble, deux pendants in-folio haut, en couleurs, marges.
Superbes épreuves, premier tirage.
55. EICHLER. Maison de paysan à Stettlen près de Berne. M. G. Eichler fecit et excudit, Bernae. Grand in-folio large, en couleurs, grandes marges grises.
Vue animée de personnages au premier plan qui en font un charmant sujet de genre. D'une extrême rareté, elle est une des plus belles gravures suisses. Superbe épreuve d'une fraîcheur absolue.
56. FEHR. Vue de la Ville de Berne du Côté du Nord. No. 1. A Berne chez B. Fehr. In-folio en large, en couleurs, marges.
57. FEHR. Vue de la Ville de Berne contre le Couchant. No. 2. A Berne chez B. Fehr. In-folio large, en couleurs, marges.
58. Vue de la Ville de Berne vers le Midy. No. 3. A Berne chez B. Fehr. In-folio large, en couleurs, marges.
Ces trois superbes vues de Berne se font pendant. Leur réunion est rare.
59. FOLLENWEIDER. Spiez am Thunersee im Canton Bern. Nach der Nat. gez. u. geätzt v. R. Follenweider. In folio large grandes marges.
Superbe épreuve de toute fraîcheur.
Prêté par le Cabinet des Estampes de l'Ecole Polytechnique Fédérale à Zurich.
60. FREUDENBERGER. Famille paysanne aux Environs de Berne. A Berne chez B. Fehr. In-folio en haut, en couleurs, grandes marges.
Cette charmante scène suisse a dû être gravée par Storcklin ou par Zehender.
61. FREUDENBERGER. La Balanceuse.
62. Le bon Père.
S. Freudenberger fecit. Ensemble deux pendants, petit in-folio haut, en couleurs, grandes marges.
Épreuves avant la lettre.
63. FREUDENBERGER. Le Repas rustique.
64. Le Retour du Marché.
S. Freudenberger fecit. A Berne chez S. Freudenberger avec privilège. In-folio large, en couleurs, grandes marges.
Superbes épreuves d'une beauté de coloris et d'une fraîcheur extraordinaire.

65. **FREUDENBERGER.** La Visite au Chalet. S. Freudenberg fecit. A Berne chez S. Freudenberg avec privilège. In-folio large, en couleurs, grandes marges.

Haut. Superbe épreuve d'un coloris léger.

Bas. Superbe épreuve d'un coloris parfait.

66. **FREUDENBERGER.** Les Soins maternels, petit in-folio large.

67. La Propreté villageoise, petit in-folio haut.

68. La Toilette champêtre, petit in-folio haut.

S. Freudenberg fecit. A Berne chez l'auteur avec privilège, en couleurs, marges.

Magnifiques épreuves de toute fraîcheur.

69. **FREUDENBERGER.** Le Jet d'eau rustique.

70. Le Jeu de cache-cache champêtre.

Ensemble deux pendants, petit in-folio haut, en couleurs, marges.

Très belles épreuves. Ces deux charmants sujets de genre ne portent jamais ni titre, ni signatures. Elles auraient, dit-on, été exécutées pendant son séjour à Paris. Rares.

71. **FREUDENBERGER.** Départ du Soldat suisse. S. Freudenberg fecit. A Berne chez l'auteur, avec privilège. In-folio large, en couleurs, grandes marges.

72. **FREUDENBERGER.** Retour du Soldat suisse dans le pays. S. Freudenberg fecit. A Berne, chez l'auteur, avec privilège. In-folio large, en couleurs, grandes marges. Uniforme rouge.

73. **FREUDENBERGER.** Retour du Soldat suisse dans le pays. S. Freudenberg fecit. A Berne, chez l'auteur avec privilège. In-folio large, en couleurs, grandes marges. Uniforme bleu.

Épreuves bonnes de coloris.

- 73A. **FREUDENBERGER.** Retour du Soldat suisse dans le pays. S. Freudenberg fecit. A Berne, chez l'auteur avec privilège. In-folio large, en couleurs, grandes marges. Uniforme jaune.

Cet exemplaire, uniforme jaune à revers rouges, est probablement unique dans cet état.

74. FREUDENBERGER. La jeune fille au puits. S. Freudenberger fecit. In-4to large, en couleurs, grandes marges.

Epreuve avant lettres de coloris magnifique.

Prêté par le Cabinet des Estampes de l'Ecole Polytechnique Fédérale à Zurich.

75. FREUDENBERGER. Chanteuses du Mois de Mai. S. Freudenberger fecit. A Berne chez S. Freudenberger peintre avec privilège. In-folio large.

Belle épreuve, très rare.

76. FREUDENBERGER. Petite fête imprévue. S. Freudenberger fecit. A Berne chez S. Freudenberger peintre avec privilège.

Belle épreuve, très rare.

77. FREUDENBERGER. La Leçon de Clavecin.

78. La Leçon de Guitarre.

Exécutés par Freudenberger pendant son séjour à Paris. In-folios hauts.

Superbes épreuves avant lettres.

79. FREUDENBERGER. La Crainte enfantine. Gravé par F. Janinet en 1774, d'après le dessein original de même grandeur fait par S. Freudeberg. A Paris chez Janinet. In-folio haut, grandes marges.

Superbe épreuve.

80. FREUDENBERGER. La Confiance enfantine, gravé par F. Janinet en 1775, d'après le dessein original de même grandeur fait par S. Freudeberg. A Paris chez le Père et Avaulez. In-folio haut, grandes marges.

Superbe épreuve.

Ces quatre gravures sont prêtées par S. Exc. Madame Paravicini.

81. FUESSLI. Vue des environs et du Lac de Zurich, prise de la Promenade du Rempart. Dessiné d'après nature et gravé par H. Fuessli. Grand in-folio large, en couleurs, marges.

Superbe vue de toute rareté en magnifique épreuve.

82. GESSNER. Der Rossmarkt. Gemahlt von Conrad Gessner. Gestochen von F. Hürliman. Zurich bey Dickenmann, Mahler.

Belle épreuve,

Prêté par le Cabinet des Estampes de l'Ecole Polytechnique Fédérale à Zurich.

83. GRUNDMANN. Vue de la Mer de glace prise sur le Montanvers près de l'Ermitage dans la Vallée de Chamouni
84. Vue générale du Mont Blanc, de l'Aiguille d'Argentières et de celle du Pouce prise sur le col de Balme, sur la limite du Valais et Savoie.
Grundmann del. Publiés par J. P. Lamy. In-folio large, en couleurs, marges grises.
Vues rares en très belles épreuves.
85. GRUNDMANN. L'extérieur de la source de l'Arveron. Marges brunes.
86. Vue de l'Aiguille du Dru, de l'Aiguille Verte avec le Glacier de Bois pris aux environs d'Othon dans la Vallée de Chamouni. Marges grises.
Grundmann. Publié par J. P. Lamy. In-folio large, en couleurs, marges grises.
Epreuves de parfaite fraîcheur.
87. GRUNDMANN. Montée de Mr. de Saussure sur la Cime du Mont Blanc.
88. Descente de Mr. de Saussure de la Cime du Mont Blanc au mois d'Aoust. 1785.
Grundmann del. Publiés par J. P. Lamy à Berne Bâle Lausanne et Genève. Ensemble deux pendants, in-folio large, en couleurs, marges grises.
Vues inspirées de celles de L'Evêque et très rares.
Superbes épreuves.
89. HACKERT. Vue de la Source de l'Arveron. C. Hackert ft. Grand in-folio large, en couleurs, marges grises.
Ciel retouché avec coloris violet, pli au milieu.
90. HACKERT. Vue de Genève prise depuis Saconex en Savoie. Fait par Carl Hackert, 1782. Grand in-folio large, en couleurs, marges grises.
Superbe épreuve de grande fraîcheur de coloris.
91. HACKERT. Vue du Mont Blanc et une partie de Genève prise depuis Pregny. Carl Hackert fecit 1781. Se vend chez Carl Hackert à Genève. Grand in-folio large, en couleurs, marges grises. Vue peu commune avec inscription manuscrite dans la gravure.
Très belle épreuve de coloris rose avant lettres.
92. HACKERT. Vue de la Vallée de Chamouny prise près d'Argentière. Carl Hackert fecit, 1781. Grand in-folio large, en couleurs, marges grises.
Très belle épreuve.

93. HACKERT. Vue de Nion. (Dans la gravure.) Carl Hackert fecit. Grand in-folio large, en couleurs, marges. Belle épreuve du second tirage, sans les mouettes. Inscription à l'encre sur la marge du bas.
94. HACKERT. Vue de la Mer de Glace, et de l'Hôpital de Blair du Sommet du Montanvert dans le mois d'Aoust 1781. Carl Hackert, 1781. Grand in-folio, en couleurs, marges grises.
Belle épreuve.
95. HACKERT. Vue de l'entrée de la Vallée de Chamouni. A Genève chez Fr. Monty Mr^d. opticien et Géographie, etc. Grand in-folio large, en couleurs, marges.
96. HACKERT. Vue de la Vallée de Chamouni. A Genève chez Fr. Monty Mr^d. opticien et Géographie, etc. Grand in-folio large, en couleurs, marges grises.
Magnifique épreuve. Vue rare.
97. IUEL, pinxt. H. B. de Saussure. Portrait en pied, assis sur un tertre gazonné, alpenstock en main. Quatre vers au bas (de Bourrit). A Basle chez Chr. de Mechel. In-folio en haut, en couleurs, marges.
Superbe épreuve de ce très beau portrait.
98. JOYEUX ET WEXELBERG. Le Pont de St. Maurice dans le bas Vallais. Grand in-folio large, en couleurs, grandes marges, encadrement aquarellé.
Belle épreuve animée de personnages au premier plan.
99. JOYEUX ET WEXELBERG. La Ville de Lausanne dessinée depuis Beaulieu. Dédiée à S.A.R. Mgr. Le Prince Auguste Frédéric d'Angleterre par leurs très humbles et très obéissants serviteurs L. Joyeux et Wexelberg. Grand in-folio large, en couleurs, marges avec encadrement aquarellé.
Vue de la plus grande rareté. Epreuve superbe, unique dans cet état.
100. JOYEUX ET WEXELBERG. Le Château de Chillon, en allant de Vevey à Villeneuve. Dédié à S.A.R. Mgr. Le Prince Auguste Frédéric d'Angleterre par leurs très humbles et très obéissants serviteurs L. Joyeux et Wexelberg. A Vevey chez les auteurs. Grand in-folio large, en couleurs, grandes marges avec encadrement aquarellé.

Cette vue comme toutes celles des mêmes artistes est excessivement rare. Epreuve d'une fraîcheur absolue, portant dans la gravure l'inscription "Dessiné d'après nature par L. Joyeux et Wexelberg" elle est de tout premier tirage.

101. JOYEUX ET WEXELBERG. Le Village de Montreux dessiné depuis Crin. Dessiné d'après nature par L. Joyeux et Wexelberg. Dédié à S.A.R. Mgr. Le Prince Auguste Frédéric d'Angleterre par leurs très humbles et très obéissants serviteurs L. Joyeux et Wexelberg. Grand in-folio large, en couleurs, grandes marges avec encadrement aquarellé.

Cette splendide vue animée de personnages est la plus rare de toutes celles qui furent gravées par ces artistes. Elle peut faire pendant à la précédente.
Épreuve d'une beauté idéale.

102. JUILLERAT. Vue du glacier du Rhône au Mont de la Fourche à l'extrémité orientale du Valais. Peint par L. J. de Louthembourg. Gravé par J. H. Juillerat. Très grand in-folio large, en couleurs, marges grises.

Épreuve de toute fraîcheur.

103. JUILLERAT. Vue du Glacier du Rheinwald d'où sort la troisième source du Rhin dans les Grisons. Dessiné par J. H. Juillerat. Publiée à Basle par Chr. de Mechel. Très grand in-folio large, en couleurs, marges grises.

Superbe vue glacière en épreuve de toute fraîcheur, faisant pendant à la précédente.

104. KELLER. La Ville de Zurich. A Zurich chez Fuessli et Comp. Très grande in-folio large, en couleurs, petites marges. Au premier plan, bergers et bergères avec troupeau de moutons.

Vue qui rappelle par la facture la manière de Bidermann.

Splendide épreuve elle est plus rare que la vue de Zurich par cet artiste.

105. KOENIG. Alte Trüll-Musterung. Nach der Natur gezeichnet im Jahr, 1789, und lithographiert von F. N. König, A. 1825. In-folio large, lithographie en couleurs, marges.

Intéressant sujet de genre, remarquable au point de vue des costumes militaires. Épreuve de premier tirage.

106. KOENIG. La Chute du Staubbach dans la Vallée de Lauterbrunnen. Peint à l'huile sur les lieux et gravé par F. N. König. Grand in-folio haut, en couleurs, marges.

Superbe épreuve de la plus grande planche gravé de Koenig.

107. KOENIG. Zug. Costume d'homme et de femme Koenig fecit. In-folio haut, en couleurs, sans marges monté anciennement sur papier bleu avec titre manuscrit.

108. Oberhasli. Costume d'homme et de femme. Koenig fecit. In-folio haut, en couleurs, sans marges, monté anciennement sur papier bleu avec titre manuscrit.

109. KOENIG. Appenzell. Costume d'homme et de femme.
F. N. Koenig fecit. In-folio haut, en couleurs, sans
marges, monté anciennement sur papier blanc avec titre
manuscrit.
110. Guggisberg. Costume d'homme et de fillette.
Koenig fecit. In-folio haut, en couleurs, sans marges,
monté anciennement sur papier blanc avec titre
manuscrit.
D'une suite excessivement rare, très différente de style et de facture à celle
des "Grands König." Très belles épreuves.
111. KOENIG. Costumes suisses. De la suite des costumes
gravés à l'aquatinte et coloriés.
Superbes épreuves de cette suite des costumes connus sous le nom de
"Grands König."
112. KOENIG. Paysanne de Meyeringen dans la Vallée
d'Oberhasli. In-folio haut, en couleurs, grandes marges.
Superbe épreuve de ce très rare costume. Avant toute lettre.
113. KOENIG. Costumes suisses, litho par A. Merian.
114. KOENIG. Costumes suisses, aquatint.
Publiés par Birmann et Fils à Basle. Grand in-folio
large, en couleurs, grandes marges grises.
Superbes épreuves de ces planches de costumes, rares réunies.
115. KOENIG. Le retour du chasseur au chamois. In-folio
large, en couleurs, grandes marges.
Superbe épreuve de toute fraîcheur
116. KOENIG. La Famille laborieuse.
117. Le Retour des Alpes. F. N. Koenig fecit.
Ensemble deux pendants, in-folio large, en couleurs,
grandes marges.
Sujet de genre d'une maîtrise incomparable, et dans un état de fraîcheur
idéale.
118. KOENIG. Der Kiltgang im Canton Bern. Gezeichnet
und gestochen von F. N. Koenig. In-folio large, en
couleurs, marges.
Très belle épreuve.
119. KOENIG. Der Abend-Sitz, in Unterseen, Canton Bern,
bey dem Autor. Gezeichnet und gestochen von F. N.
Koenig. In-folio large, en couleurs, marges.
Très belle épreuve.

120. KOENIG. Die Kinds-taaffe im Canton Bern. Gezeichnet und gestochen von F. N. Koenig. In-folio large, en couleurs, grandes marges.
Superbe épreuve de premier tirage d'une fraîcheur absolue.
121. KOENIG. Die Glück-henne. In Interlaken, Canton Bern, bey dem Autor. N. König fecit. In folio haut, en couleurs, marges.
Superbe épreuve de toute beauté de coloris,
Prêté par le Cabinet des Estampes de l'Ecole Polytechnique Fédérale à Zurich.
122. KOENIG. Das Abend-brot. F. N. König fecit. In-folio haut, en couleurs, marges.
Belle épreuve de coloris léger.
Prêté par le Cabinet des Estampes de l'Ecole Polytechnique Fédérale à Zurich.
123. KOENIG. Philémon et Beaucis. F. N. König fecit. In-folio haut, en couleurs, marges.
Superbe épreuve avant lettres de toute fraîcheur, portant titre et signature en manuscrit.
Prêté par le Cabinet des Estampes de l'Ecole Polytechnique Fédérale à Zurich.
124. KOENIG. Le Chalet. F. N. König fecit. In-folio haut, aquarelle.
Prêté par le Cabinet des Estampes de l'Ecole Polytechnique Fédérale à Zurich.
125. KOENIG. Costume de Lucerne du Recueil de Costumes de F. N. König. Lith.
126. KUNTZ. La Danse Vilageoise. Costume des paysans du Wenthäl, canton de Zurich. Dessiné d'après nature par C. Kuntz. Gravé par F. Hegi. Se vend à Zurich chez Math. Pfenninger, graveur. In-4to haut, en couleurs, marges.
Charmante gravure à l'aquatinte formant sujet de genre. Excessivement rare.
Superbe épreuve.
127. LAFON. Vue d'Interlaken. Dessiné et gravé par D. Lafon, Berne, chez Lafon et Lory, peintres. Grand in-folio large, en couleurs, grandes marges.
L'une des vues types suisses par excellence. On prétend que les personnages du premier plan seraient de Freudenberger. Superbe épreuve.



J. Baldemann fecit

*Les Offres de la Villageoise
à Rome chez Le Baldemann peintre avec privilège.*

THE
MUSEUM

128. LAFON. Vue d'Interlaken. Dessiné et gravé par D. Lafon, à Berne chez Lafon et Lory, peintres. Grand in-folio large, en couleurs, grandes marges.
Superbe épreuve avant lettres.

Prêté par le Cabinet des Estampes de l'Ecole Polytechnique Fédérale à Zurich.

129. LAMY. Le Maronnier guidant les Voyageurs au milieu d'une tourmente sur le Mont St. Bernard. Publié par J. P. Lamy. In-folio large, en couleurs, grand in-quarto. Sujet rare, probablement resté à l'état de projet. Superbe épreuve.
Titre manuscrit.

130. LAMY. Position dangereuse près du Finsteraarhorn. Publié par J. P. Lamy.

131. LAMY. Vue d'Unterséen. Publié par J. P. Lamy.

132. L'EVEQUE. Monsieur de Saussure, son fils et ses guides, arrivant au glacier du Tacul au Grand Géant où ils ont habité 17 jours sous des tentes en Juillet 1788.

133. L'EVEQUE. Monsieur de Saussure, sons fils et ses guides, descendant le Glacier du Tacul.

H. l'Evêque delin. et sculpsit. Ensemble deux pendants in-folio large, en couleurs, grandes marges.

Vues aussi rares que recherchées. Superbes épreuves, de toute fraîcheur.

134. LINCK. Vue prise de la Voute nommée le Chapeau, du Glacier des Bois et des Aiguilles du Charmoz. Se vend à Genève chez l'auteur. (Dans la gravure) Fait par Jn. Ante. Linck. Grand in-folio large, en couleurs, marges.
Superbe épreuve de toute fraîcheur.

135. LINCK. Vue de la Vallée de Chamounix, de l'Aiguille du Midi et de celle d'Argentière, prise au dessus des Ouches. (Dans la gravure) Fait par J. Ant. Linck. Se vend à Genève chez l'auteur. Grand in-folio large, en couleurs, marges grises.

Superbe épreuve, fraîcheur absolue.

136. LINCK. A Mournex. (Dans la gravure) Fait par J. Ant. Linck. In-folio large, en bistre, toutes marges.
Superbe épreuve de cette charmante vue de Linck, aussi rare que jolie.

137. LINCK. Vue de la Dent du Midi et du Château de Panex, prise près d'Aigle. Fait par Jn. Ante. Linck. Se vend à Genève chez l'auteur. Grand in-folio large, en couleurs, marges grises.

Les armes de Berne sur le Château ne sont pas coloriées.

Superbe épreuve d'une fraîcheur parfaite.

138. LINCK. Vue de Bex. Se vend à Genève chez l'auteur.
Fait par Jn. Ante. Linck. Grand in-folio large, en
couleurs, marges.
Superbe épreuve.
139. LINCK. Vue de la Mer de Glace, des Aiguilles des
Charmos, du Géant, de la Grande Jorasse et des Hospice
du Sommet du Montanvert. Se vend chez l'auteur à
Genève. Fait par Jn. Ante. Linck. Grand in-folio
large, en couleurs, marges.
Superbe épreuve en coloris de toute fraîcheur.
140. LINCK. Vue de Morges. Se vend à Genève chez
l'auteur. Fait par Jn. Ante. Linck. Grand in-folio
large, en couleurs, marges grises.
Vue de la plus grande rareté. Superbe épreuve de coloris rose dans le ciel,
d'une fraîcheur absolue.
141. LINCK. Vue de la Source de l'Arveiron, des Aiguilles
Verte, du Dru et du Bochar. Se vend chez l'auteur
à Genève. Fait par Jn. Ante. Linck. Grand in-folio
large, en couleurs, marges grises.
Superbe épreuve de cette curieuse et rare vue glacière.
142. LINCK. Vue de Genève et jonction de l'Arve avec le
Rhône. (Dans la Gravure) Fait par Jn. Ante. Linck.
Se vend à Genève chez l'auteur. Grand in-folio large,
en couleurs, marges.
Vue très rare en superbe épreuve.
143. LINCK. Vue de la Cascade d'Arpenas. (Dans la
gravure) Fait par Jn. Ante. Linck. Se vend à Genève
chez l'auteur. In-folio large, en couleurs, marges grises.
Superbe épreuve.
144. LINCK. Vue du Mont-Blanc prise de la Campagne de
Mr. Hentsch à Sécheron près de Genève. Se vend chez
l'auteur à Genève, fait par J. Ante. Linck. Grand
in-folio large, en couleurs, marges.
Cette vue est l'une des plus anciennes de Linck, et peut-être, la plus rare.
Superbe épreuve en coloris de toute fraîcheur.
145. LINCK. Vue de l'entrée dans les Souterrains des Salines
de Bex. Se vend à Genève chez l'auteur. (Dans la
gravure) Fait par Jn. Ante. Linck. Grand in-folio
large, en couleurs, marges.
Superbe épreuve d'une fraîcheur parfaite.

146. LINCK. Vue de Servoz, de l'Aiguille du Gouté et du Glacier de Bionnassey. (Dans la gravure) Fait par Jn. Ante. Linck. Grand in-folio large, en couleurs, marges grises.

Très belle épreuve.

147. LINCK. Vue du Mont Blanc prise du Sommet du Col de Balme. Se vend à Genève chez l'auteur. (Dans la gravure) Fait par Jn. Ante. Linck. Grand in-folio large, en couleurs, marges grises.

Superbe épreuve en toute fraîcheur.

148. LINCK. Vue du Prieuré de Chamouni, du Mont-Blanc, de l'Aiguille du Gouté et du Glacier des Buissons. Se vend chez l'auteur à Genève. Fait par J. Ant. Linck. Grand in-folio large, en couleurs, marges grises.

Très belle épreuve.

149. LOCHER. *Haut* : Les trois grâces du Gougisberg ou costume des paysannes du Bailliage mediat de Schwarzenbourg en Suisse. Dessiné par Locher d'après nature. Bâle chez Chr. de Mechel. In-folio haut, en couleurs, marges.

Bas : Même, copie renversée.

150. LOCHER. Les trois grâces du Gougisberg ou costume des paysannes du Bailliage mediat de Schwarzenbourg en Suisse. Dessiné par Locher d'après nature. Bâle chez Chr. de Mechel. In-folio haut, en couleurs, marges.

151. Les trois Bacchus ou costumes des paysans du territoire de Morat en Suisse. Dessiné par Locher d'après nature. A Basle chez Chr. de Mechel. In-folio haut, en couleurs, marges.

Belles épreuves.

152. LOCHER. La belle batelière de Brientz. Grand in-folio haut, en couleurs, sans marges. Montée anciennement avec encadrement doré.

Sujet recherché en superbe épreuve.

153. LORY. Vue du Pont de Pierre et des environs à Moscou, prise du petit pont de bois près le Tour du Coin. Guerard de la Barthe pinxit en 1796. G. Lory père fecit. Grand in-folio large, en couleurs, grandes marges.

Cette gravure forme partie d'une série de quatorze gravures par cet artiste dont la plupart furent perdues dans l'incendie de 1812.

Intéressante vue animée de personnages, en splendide épreuve. Les vues de Russie gravées par Lory et coloriées d'après ses indications sont d'une très grande beauté et fort rares surtout réunies.

154. LORY. Laborieuse Campagnarde du Canton de Berne.
In-folio haut, en couleurs, marges. G. Lory père, 1794.
L'une des plus rares gravures de Lory. Splendide épreuve avant la lettre.
155. LORY. Laborieuse Campagnarde du Canton de Berne.
Variante intéressante de fille.
156. LORY. Paysanne galante du Canton de Berne. Publié
par J. P. Lamy, à Bâle, Berne, Lausanne et Genève.
In-folio haut, en couleurs, marges. G. Lory père.
Magnifique document de costume suisse, formant sujet de genre.
Rare avec sa marge. Très belle épreuve.
157. LORY. Trois paysannes par G. Lory. In-folio haut,
en couleurs, grandes marges.
Superbe épreuve avant toute lettre.
Prêté par le Cabinet des Estampes de l'Ecole Polytechnique
Fédérale à Zurich.
158. LORY. Au Sandrain près Berne. In-folio large, en
couleurs, grandes marges. Au premier plan vache, berger
et paysanne. G. Lory père 1819.
Très beau sujet de genre. Belle épreuve avant toute lettre. Rare.
159. LORY. Vue de Clarens au Lac de Genève. Très grand
in-folio large, en couleurs, marges grises. G. Lory
fils 1805.
Cette splendide vue est la plus importante au point de vue artistique comme
au point de vue iconographique que Lory ait faite de cette région. Lui-même
s'est représenté au premier plan, debout, un carton sous le bras. Cette
gravure est de toute rareté et n'a dû être tirée qu'à petit nombre, étant donné
son format.
Superbe épreuve avant la lettre.
160. LORY. Vue de Thoun depuis Steffisberg. Au premier
plan chalet, bergers et vaches. In-folio large, en
couleurs, grandes marges. Sujet de genre. G. Lory
père, 1814.
Splendide épreuve superbe avant les lettres, excessivement rare.
161. LORY. Paysannes du Canton de Berne. In-folio large,
en couleurs, grandes marges. Sujet de genre de toute
beauté. G. Lory père.
Superbe épreuve signée à la plume.
162. LORY. Soirée champêtre dans l'Oberhasli, Canton de
Berne. Lory delinea vit, in-folio, en couleurs, marges
grises. G. Lory fils.
Splendide épreuve de premier tirage, fraîcheur absolue. Un des chefs-
d'œuvre de Lory.

163. LORY. Le soin maternelle. In-folio haut, à l'ovale, sans marges, monté à l'époque sur papier gris avec filets d'encadrements et titre manuscrit au bas. G. Lory père. L'un des plus charmants sujets de genre de Lory, très inspiré de l'art français de cette époque.
Superbe épreuve d'une fraîcheur absolue.
164. LORY. Le Glacier inférieur du Grindelwald et le Mont Eiger. Dessiné et gravé par G. Lory, à Berne, chez Lafon et Lory, peintres. Grand in-folio large, en couleurs, grandes marges. G. Lory père 1788.
Magnifique épreuve.
165. LORY. La Vallée de Lauterbrunnen avec la Chute du Staubbach. Dessiné par G. Lory père, et gravé par D. Laffon à Berne. Grand in-folio large, en couleurs, grandes marges.
Belle épreuve de coloris rose.
166. LOUTZ. Procession des Avoyers et Conseils de la Ville et République de Berne.
"Dédié à Leurs Excellences les Illustres, Magnifiques très Hauts et Puissants Seigneurs-Advoyers, petit et grand Conseil de la noble Ville et République de Berne, mes Souverains Seigneurs, par leur très humble et foéal Bourgeois J. J. Loutz, peintre avec Privilège de Leurs Excellences."
167. LOUÏZ. Procession de l'Etat Extérieur de la Ville et République de Berne.
"Dédié à Messieurs du Louable Etat Extérieur de la Ville et République de Berne, par leur très humble et soumis Serviteur Jean-Jacques Loutz Peintre. Dessiné d'après Nature et gravé par J. J. Loutz, peintre et se vend à Berne chez l'Auteur."
Ces deux gravures sont prêtées par le Musée des Beaux-Arts à Berne.
168. MAYR. Vue de la Ville de Lindau (du côté du Lac de Constance) Dessiné et gravé par J. C. Mayr (publié par B. Fehr, à St. Gall). In-folio large, en couleurs, marges.
Superbe épreuve, jolie vue due *xviii* Siècle.
169. MECHEL. Vue de la Forteresse d'Aarburg dans l'Argew au Canton de Berne. A Basle chez Chr. de Mechel. In-folio large, en couleurs, grandes marges.
Superbe vue, animée de personnages au premier plan, et d'une grand rareté
Elle a été vraisemblablement gravée d'après Lory.

170. **MECHEL.** Ière Vue de la Ville de Basle, prise de la Porte de St. Jean. A Basle, chez Chr. de Mechel. In-folio large, en couleurs, grandes marges.
Superbe épreuve de toute fraîcheur.
171. **MECHEL.** Louis Pfyffer, Seigneur de Wyhr . . . né à Lucerne en 1716. A Basle chez Chr. de Mechel. In-quarto haut, en couleurs, marges.
Gravure rare en superbe épreuve portant à la plume (Dans la gravure) l'inscription "Gravé in 1786."
172. **MIND.** La guerre aux rats. Petit in-folio large, en couleurs, marges grises.
Superbe épreuve de cette rare composition. Dit-on la mansarde même de Mind lorsqu'il travaillait pour Freudenberger.
173. **PFENINGER.** Chute d'eau à Balstal, Canton de Soleure. Dessiné d'après nature par Math. Pfeninger, graveur à Zurich. In-folio haut, en couleurs, marges grises.
Vue très rare, gravée à l'aquateinte. Superbe épreuve.
174. **PFENINGER.** Passage et ouverture de Hauenstein, Canton de Soleure. Dessiné d'après nature par Math. Pfeninger, graveur à Zurich. In-folio haut, en couleurs, marges grises.
Vue rare, faisant pendant à la précédente. Superbe épreuve.
175. **PFENINGER.** Les Bonvivans du Canton de Berne. Se vend à Zurich, chez M. Pfeninger graveur. In-folio haut, marges.
Bonne épreuve.
176. **REINHARD.** Costumes suisses, peints par Reinhard et publiés par P. Birmann et J. F. Huber à Basle. In-folio haut, en couleurs.
177. **REINHARD.** Costumes suisses peints par Reinhard et publiés par P. Birmann et J. F. Huber à Basle. In-folio haut, en couleurs.
178. **REINHARD.** Costumes suisses peints par Reinhard et publiés par P. Birmann et J. F. Huber à Basle. In-folio haut, en couleurs.
18 superbes exemplaires de cette artiste.
179. **RIETER.** Embouchure de l'Aar dans le Lac de Thoune. Grand in-folio large, en couleurs, marges, peint par H. Rieter à Berne (en manuscrit).
Splendide épreuve de tout premier tirage et avant toute lettre. Excessivement rare, surtout dans cet état.

180. RIETER. Dernière cascade du Reichenbach dans La Vallée d'Oberhasli. Peint d'après nature et gravé par H. Rieter avec privilège. Très grand in-folio large, en couleurs, marges.

Magnifique épreuve.

Signée à la plume " H. Rieter 1802."

181. RIETER. Vue du Château de Spiez sur le Lac de Thoune. Peint d'après nature et gravé par H. Rieter avec privilège. Grand in-folio large, en couleurs, marges.
Superbe épreuve de toute fraîcheur.

182. RIETER. Maison de paysan du Canton de Berne. Grand in-folio large, en couleurs, marges, peint par H. Rieter.
Épreuve splendide avant la lettre. Titre et signature manuscrits.

183. ROUX. Deuxième vue de Genève. Prise à Pinchat et gravée par J. A. Roux. Grand in-folio large, en couleurs, grandes marges.
Superbe épreuve de cette vue de la plus grande rareté.

184. SCHMIED. Vue d'Unterseen et Interlaken.

185. SPRUNGLIN. Vue du fameux pont et Château de St. Maurice. Dessiné d'après nature par G. Sprunglin, Architecte de LL. EE. de Berne. In-folio large, en couleurs, petites marges.
Très belle épreuve.

186. SPRUNGLIN. Vue du Château et du Pont de Wimmis, Côté du Midi. Dessiné d'après nature par N. Sprunglin, Architecte de LL. EE. de Berne. In-folio large, en couleurs, petites marges.
Superbe épreuve de cette vue rare.

187. SPRUNGLIN. Vue du Battenberg (Beatenberg), de Leissiguen, du Lac de Thoune et de Brientz avec ces hautes Alpes, Côté du Levant. Dessiné d'après nature par F. Sprunglin, Architecte de LL. EE. de Berne. Grand in-folio large, en couleurs, marges.
Superbe épreuve, coloris très beau.

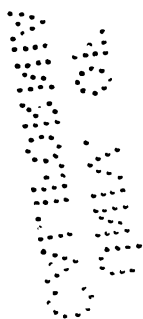
188. SPRUNGLIN. Vue de Leissiguen au haut du Lac de Thoune et de ces beaux environs, Côté du Couchant. Dessiné d'après nature par N. Sprunglin, Architecte de LL. EE. de Berne. In-folio large, en couleurs, marges.
Superbe épreuve.

189. SPRUNGLIN. Vue des Vallées et montagnes de Gessenay, de Lauwenen et de G'Steig d'où on voit le fameux glacier de Guelte dans le Canton de Berne. Dessiné et fait d'après nature par N. Sprunglin, Architecte de LL. EE. de Berne. Grand in-folio large, en couleurs, Grandes marges.
Très belle épreuve.
190. SPRUNGLIN. Vue de la Ville de Lausanne et des environs du Lac de Genève du Côté du Nord. Dessiné d'après nature par N. Sprunglin, Architecte de LL. EE. de Berne. In-folio large, en couleurs, grandes marges.
Rare, superbe épreuve.
191. SPRUNGLIN. Vue du Lac et de la Ville de Neuchâtel. Dessiné d'après nature par N. Sprunglin, Architecte de LL. EE. In-folio large, en couleurs, grandes marges.
Superbe épreuve de toute fraîcheur.
192. SPRUNGLIN. Vue de la Vallée et des Glaciers du Grindelwald, dans le Canton de Berne. Dessiné d'après nature par N. Sprunglin, Architecte de LL. EE. de Berne. In-folio large, en couleurs, grandes marges.
Superbe épreuve.
193. SPRUNGLIN. Vue de la Chute du Staubbach et de la Vallée de Lauterbrunnen, dans le Canton de Berne. Dessiné d'après nature par N. Sprunglin, Architecte de LL. EE. de Berne. In-folio large, en couleurs, marges.
Superbe épreuve de toute fraîcheur.
194. TRINER. Vue de la Montagne du Spitzbühl au Canton de Schwytz. X. Triner pinxit, (Dans la gravure) colorié par Lory. Grand in-folio large, en couleurs, marges.
L'une des plus rares vues coloriées par Lory et signée par cet artiste dans la gravure. Bonne épreuve.
195. TROLL. Vue du lac de Sarnen. Dessiné d'après nature et gravé par Troll. Grand in-folio large, en couleurs, grandes marges.
Splendide épreuve.
196. VOLMAR. Les quatre saisons. Geo. Volmar fecit. Ensemble 4 sujets in-quarto haut, en couleurs, marges.
Cette suite est d'une insigne rareté.
197. VOLMAR. Servante paysanne à Berne. Se vend chez J. J. Bourgdorfer à Berne. In folio haut, en couleurs, grandes marges.
Splendide épreuve de ce beau et rare costume bernois.



Proof before letters of
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Gracure de G. Lory père 1819.



198. VOLMAR. Vachère des Alpes de l'Emmenthal, Canton de Berne. In-folio large, en couleurs, marges grises.
Sujet de genre très rare. Superbe épreuve avant toute lettre avec titre manuscrit et timbre sec de l'éditeur Lamy.
199. VOLZ. Montée de Mr. de Saussure sur la Cime du Mont Blanc.
200. Descente de Mr. de Saussure de la Cime du Mont Blanc au Mois d'Aoust 1785. Volz del. Publiés par J. P. Lamy à Berne et Bâle. Ensemble deux pendants in-folio large, en couleurs, grandes marges grises.
Vues inspirées de celles de Wocher et tout aussi rares. Celles-ci sont dans un état de toute beauté.
201. WEIBEL. Le Staubbach dans La Vallée de Lauterbrounen.
202. Cascade du Giesbach.
Epreuve avant lettres.
203. Vue du Château du Ringenberg au lac de Brienz.
204. La Cime de la Jungfrau dans La Vallée de Lauterbrounen.
S. Weibel fecit. In-4to large, en couleurs, marges.
Superbes épreuves de toute fraîcheur.
205. WEIBEL. Vue des environs des Bains de Loesch contre la Gemmi. Peint d'après nature par S. Weibel.
206. WEIBEL. Vue des environs des Bains de Loesch prise du pied de la Gemmi dans le haut Vallais. Peint d'après nature par S. Weibel.
Ensemble deux pendants, grand in-folio large, en couleurs, grandes marges.
Superbes vues rares, animées de petits personnages en costumes montagnard et citadin. Splendides épreuves avant toute lettre, avec titres et signatures manuscrits.
207. WISARD. Huit costumes suisses par Mme. Wisard. In-folio haut, en couleurs, marges.
Superbes épreuves.
208. WOCHER. Voyage de M. de Saussure à la Cime du Mont Blanc au mois d'Août 1787, Publié par Chr. de Mechel en 1790. Grand in-folio large, en couleurs, grandes marges. Ière planche.
209. WOCHER. Voyage de M. de Saussure à la Cime du Mont Blanc au mois d'Août 1787. Publié par Chr. de Mechel en 1790. Grand in-folio large, en couleurs, grandes marges. IIème planche.
Magnifiques épreuves de ces vues rares et recherchées les plus belles de ce sujet alpestre.

210. WOCHER. Voyage de Monsieur de Saussure à la Cime du Mont Blanc au mois d'Août 1787. Publié par Chr. de Mechel en 1790 et se trouve chez lui à Bâle. Grand in-folio large, en couleurs, grandes marges grises.

Ilème planche seule. Variante excessivement rare sur laquelle de Saussure est représenté assis et plus âgé que sur la planche rencontrée communément. A ce propos, on raconte que de Saussure lui-même, trouvant cette position peu flatteuse, fit modifier la gravure telle qu'elle se trouve généralement.

211. WOCHER. Vue prise de la cimetière de Thoune, Canton de Berne. Dessiné d'après nature par Marq. Wocher à Basle en 1804. Très grand in-folio large, en couleurs, sans marges.

Cette vue, la plus belle de celles de Thoune, est traitée d'une manière magistrale rappelant Bidermann. Superbe épreuve.

212. WOLFF. Une femme d'Altdorf du Canton d'Ury. In-folio haut, en couleurs, marges avec encadrement aquarellé.

A l'arrière-plan, vue d'Altdorf. Costume d'une très grande rareté en superbe épreuve.

213. WOLFF. Une jeune paysanne du Canton de Lucerne (châlets à l'arrière-plan). In-folio haut, en couleurs, grandes marges avec encadrement aquarellé.

Costume de la plus grande rareté en superbe épreuve.

214. ZEHENDER. Châlet de vachers dans l'Oberland Bernois. In-folio large, en couleurs, sans marges.

Splendide épreuve de toute fraîcheur. Très rare.

215. ZEHENDER. Maison de paysan au Canton de Berne. In-folio large, en couleurs, sans marges; monté à charnières sur la même gravure au trait.

Superbe épreuve.

216. ZEHENDER ET LORY. Vue du Glacier l'Engstle et d'une partie de la Vallée d'Adelboden dans le Canton de Berne. Dessiné par Zehender d'après nature. Se vend à Berne chez Zehender et Lory, peintres. Grand in-folio large, en couleurs, grandes marges.

Superbe épreuve de cette vue rare.

217. ZEHENDER ET LORY. La petite Fontaine noire. Source d'eau minérale près les bains du Gourniguel dans le Canton de Berne. Zehender et Lory ft. Se vend à Berne chez Zehender et Lory, peintres, avec privilège de LL. EE. Grand in-folio large en couleurs, grandes marges.

Splendide épreuve. Les personnages en costumes citadins représentent, dit-on, des membres de la famille de Graffenried. Cette estampe constitue la plus importante de toutes les scènes de genre exécutées sous la direction de Lory. Elle est animée de nombreux personnages.

THE ALPINE JOURNAL:

A RECORD OF MOUNTAIN ADVENTURE

AND

SCIENTIFIC OBSERVATION.

BY MEMBERS OF THE ALPINE CLUB.

EDITED BY GEORGE YELD AND J. P. FARRAR.

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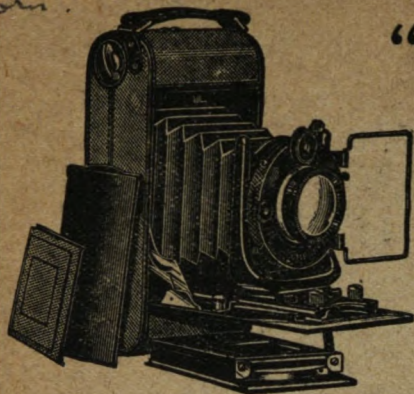
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